



the emerging preference

Commercial Installations

Public address systems



Product Catalogue 09/10





Amperes Electronics is now in its 10th year since its inception in 1999 in Puchong, Malaysia and has been a name synonymous with Public Address System.

Product offer ...

Be it large or small scale installation, Amperes has something to offer with the best available solution to meet the demanding requirements and cost factors. We build to cater the needs with contemporary design and stress highly on the quality.

Continuous development ...

Expansion of product range, continuous product improvements, emphasis on R & D as well as production process modernisation has been core thrust of Amperes development, thus ensuring products rolled out are of the latest technology.

Global acceptance ...

Amperes now existed in various countries such as Singapore, Thailand, UAE, Brunei, Philippines, Vietnam and Indonesia. The list shall be expanded further in our continuous effort to make Amperes a global brand.



customer's satisfaction

Amperes believes in customers' satisfaction and their recognition had been the fuel for its existence and growth. We believe in close working relationship with our valued partners, evaluating and react to every constructive critics with the objective of producing better and more reliable products through our continuous product improvement policy.

In short, we listen and react, seek and apply the shared knowledge to achieve a brand name of " *The Emerging Preference* ".

a member of :
Fed of Malaysian Manufacturer (FMM)

ISO 9001 : 2000
Certified Company

cert : 16895



Design & Manufacturing of
Public Address Equipment

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pmx



FEATURES

MEDIA PLAYBACK

Plays audio CD, MP3, WAV and other formats compatible with Window media player from stored files, USB or through CD.

MUSIC / MESSAGE / TONE STORAGE

Stores unlimited songs, messages, tones or chimes in PC HDD for playback with just clicks away.

WEEKLY PROGRAMMABLE TIMER

Allows repetitive playback of tone or message such as chime for lunch breaks, morning calls, welcome greeting for work shift, etc.

SCHEDULED ACTIVATION

Scheduled broadcast such as birthday song can be programmed with zone assignment.

ZONE CONFIGURATION

Zones can be named and grouped and assignable as Normal or Emergency zone for privacy and convenience of paging.

BROADCAST ZONE ASSIGNMENT

Schedule paging, music playback can be assigned to certain zones instead of blanket ALL CALL broadcast.

CONVENIENT INTEGRATION TO EXISTING SYSTEM

PMX can be easily integrated to existing installation for system enhancement

SECURITY PROTECTION

Admin and user levels with password avoids unnecessary tampering to the system setup.

UPGRADES

System upgrades and free downloads shall be available free. Future upgrades includes interfacing with BAS system, etc.

PACKAGE INCLUDES :

- Software CD
- USB dongle as license for single user
- USB to RS485 converter for interfacing with Amperes TD6801 or TD6240 decoder for zone selector activation
- USB cable

HARDWARE REQUIREMENTS

PC with Window XP operating system ;
Pentium 4 and above, 512 MB RAM and Monitor

FOR ZONE ACTIVATION

Amperes TD6240 or TD6801 decoder
Amperes ZS5601 / 5121 / 5602 zone selectors



USB - RS485 converter

Introducing the new Amperes PMX System, a software based product which is a sort of integration of various hardware components such as programmable timer, chime & siren tone generator, message recorder / player, CD player, music bank and paging station.

With PMX System, a significant amount is saved from investing in hardwares, less maintenance and moreover, it is easily upgraded from time to time, making it a product that never obsolete.

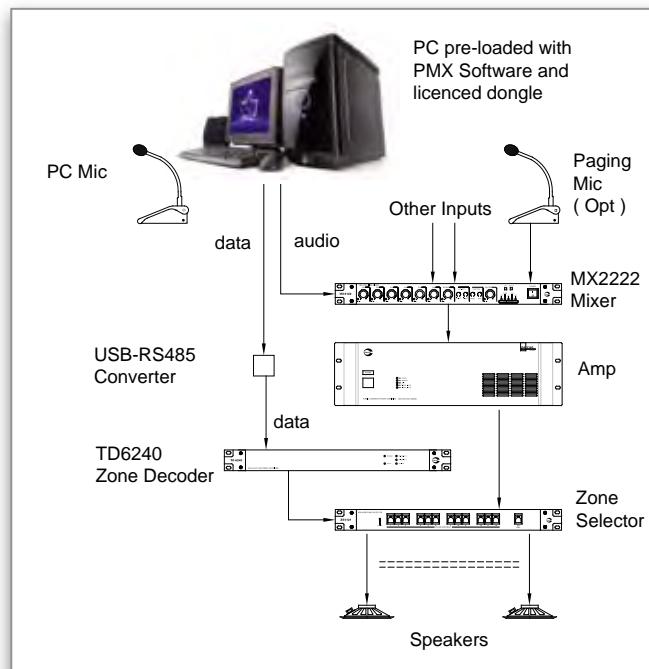
It can be easily installed in any standard PC (see requirement), interface it with USB to RS485 converter (provided) for zone selection capability, or use it merely as a music bank, link the audio and control output to existing PA installation, and you shall get an enhanced system.

It is suitable for offices, public transportation stations, shopping malls, hotels, factories, schools etc, where daily repetitive announcement is required.

Among the windows available in PMX System : Scheduling, Media Player, Zone Setup and Paging Window.



INTERFACING SCHEMATICS



PM1000 Desktop Paging Microphone
PM1060 6 Ch Desktop Paging Microphone
PM1120 12 Ch Desktop Paging Microphone

PM1000 ANALOGUE SERIES



PM1000 series are available in three variants and had been serving many installations faithfully since its creation. They are available as simple paging mic with chime to those with 6 or 12 zone selections. They are most suitable for simple and small size installations of less than 12 zones in total.

FEATURES

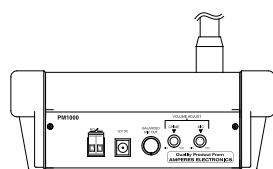
- Condenser gooseneck microphone with illuminated ring
- Pre and post announcement 4 tone chime
- Adjustable chime and mic volume with balance mic / line output level
- Output level selection to mic or line signal to suit the input type of the pre-amplifier mixer
- Dry contact available when mic is active (PM1000 only)
- 6 or 12 zone selection for PM1060 and PM1120

PAGING MICROPHONES

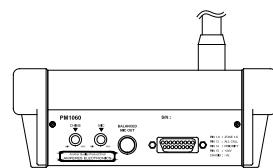
TECHNICAL SPECIFICATIONS

Power requirement	PM1000 : 24V DC adaptor PM1060 / 1120 : 24V DC via D9 conn.
Pwr consumption	50 mA / 150 mA / 150 mA
Zone selection	PM1000 - ALL CALL PM1060 / 1120 - 6 and 12 zones w ALL CALL
Microphone	Condenser mic ; cardioid
Output impedance	600 Ohm
Output level	1.2 V (line output) / balanced mic (775 mV)
Output dry contact	3 A normally open (PM1000 only)
Output controls	Chime and mic level
Audio connection	1/4 " stereo phone jack
Switching connection	D15 connector (PM1060 / 1120 only)
Operating distance	300 m (recommended)
Chime	4 tone up and 4 tone down
Indicators	Mic ring, zone switch, ALL CALL
Frequency response	100 ~ 12 KHz (+/- 3dB ; 0 dB out)
S / N ratio	> 60 dB
Gooseneck mic length	400 mm
Dimensions (WxHxD)	150 x 62 x 186 mm
Weight (kg)	780 / 810 / 850 gms

rear view of PM1000



rear view of PM1060 / PM1120

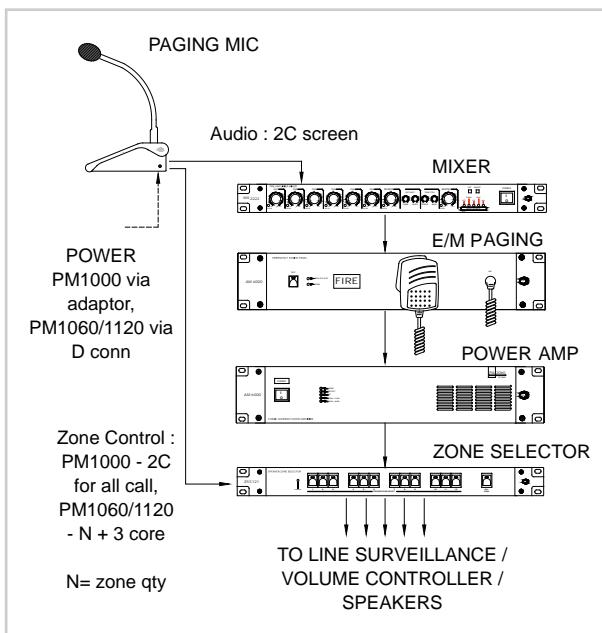


packing information

- Qty per carton : 1 unit
- W x H x D : 525 x 85 x 270 mm
- Weight : PM 1000 - 1.8 kg (incl adaptor)
: PM 1060 - 1.15 kg
: PM 1120 - 1.2 kg



APPLICATION SCHEMATIC



PD2400 is suitable for mid size installations of up to 24 zones. It can be located away in a distance of around 500m which utilizes RS485 for data communication whereas the audio by using balanced line signal.

The unit has individual key for zone selection with 4 groups and ALL CALL. 4 tone chime is incorporated and shall be activated prior and after a paging.

It shall be used with Amperes TD6801 or TD6240 decoder unit before connected to the speaker zone selector for zone activation.



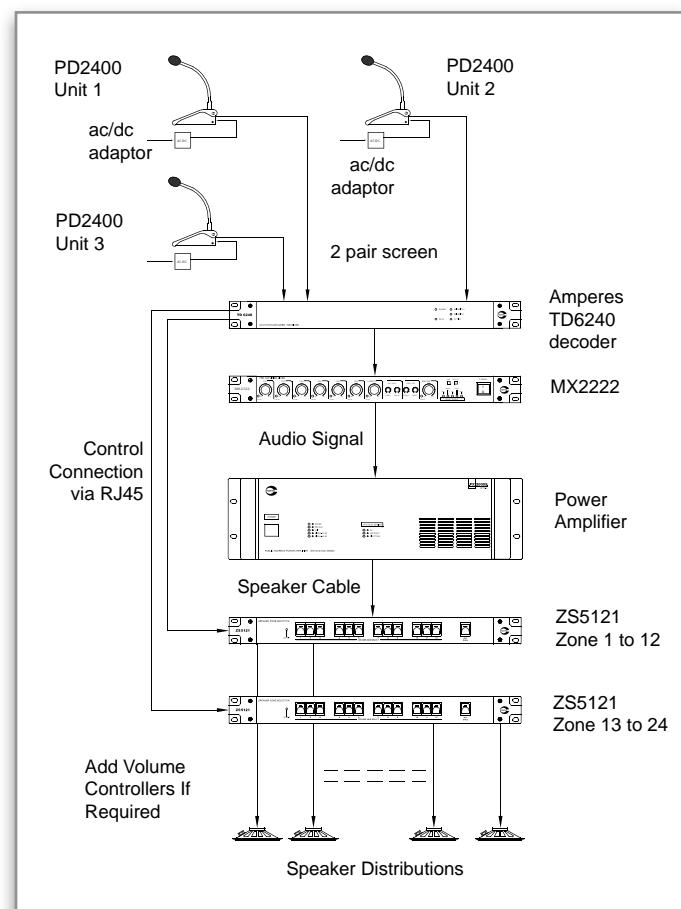
TECHNICAL SPECIFICATIONS

Power requirement	24V DC via D9 connector / ext 12V DC pwr adaptor
Power consumption	170 mA
Zone selection	24 individual zone key 4 groups (preset of 6 zones) ALL CALL
Microphone	Condenser mic ; cardioid
Output impedance	600 Ohm
Output level	1.2 V (line output)
Output controls	Chime and mic level
Data output	RS485 ; 19.2 KB / s
Data connection	D9 connector
Operating distance (data)	Up to 1000 m
Audio distance	Typ 500 m (up to cable size)
Chime	4 tone up and 4 tone down
Indicators	Mic ring, zone
Frequency response	100 ~ 12 KHz
S / N ratio	> 60 dB
Gooseneck mic length	400 mm
Dimensions (WxHxD)	292 x 62 x 186 mm
Weight (kg)	1.2 kg (excl. adaptor)

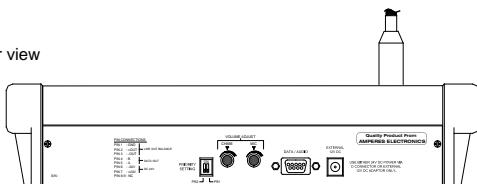
FEATURES

- 24 zone paging control with 4 fixed groups and ALL CALL
- RS485 data transmission for long distance remote paging
- Balanced line output for low noise audio connection
- Multi point paging with priority level setting ; up to 3
- PD2400 can be connected to a single TD6801 or TD6240
- 4 tone pre and post announcement chime
- BGM muting at zone selector when mic is activated ; bypassing zone selection at rack level
- Chime and mic volume control
- High sensitivity condenser microphone
- 12V or 24V DC powering, whichever convenient

APPLICATION SCHEMATIC



rear view



packing information

Qty per carton : 1 unit
W x H x D : 525 x 85 x 270 mm
Weight : 2.0 kg

PD2800

Digital Paging Microphone



TECHNICAL SPECIFICATIONS

Power requirement	24V DC 1A via adaptor to EX2800
Power consumption	0.42 A
Microphone	Condenser microphone ; cardioid
Zoning capacity	256
Zone storing capacity	108
Grouping capacity	9 groups ; each to store 12 zones
Output impedance	600 Ohm balanced
Output level	Line 1.2 V
Output controls	Chime and mic level
Chime	2 or 4 tones ; assignable
Frequency response	100 ~ 12 KHz
S / N ratio	> 60 dB at 1 KHz
Data output	RS485 ; 19.2 KBs
Data connection	RJ45 to EX2800 via Cat 5E / 6 cable
Compatible decoder	TD6801 / TD6240
Operating distance	Up to 1000m (sub. to cable size)
Memory duration	1 year (internal battery)
Gooseneck mic length	400 mm
Dimensions (WxHxD)	292 x 62 x 186 mm
Weight (kg)	1300 gms (excl. adaptor)

EX2800
EXT.CONNECTION UNITSize : 113 x 80 x 35 mm
Weight : 140 gms

packing information

Qty per carton : 1 unit
W x H x D : 525 x 85 x 270 mm
Weight : 2.05 kgStandard package :
1 x PD2800 paging desk
1 x EX2800 ext. connection unit
1 x 24 V DC power adaptor
1 x 1m Cat 5 cable RJ45 jack

PD2000 SERIES

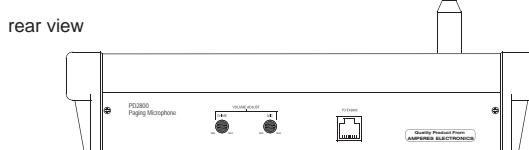


PD2800 shall be suitable for large setup, offering wide range of features with affordable pricing. Up to 108 zones can be stored in the paging desk's memory and total capacity of zoning shall be up to 256 zones. 9 groupings, each with 12 zones can be programmed for paging convenience.

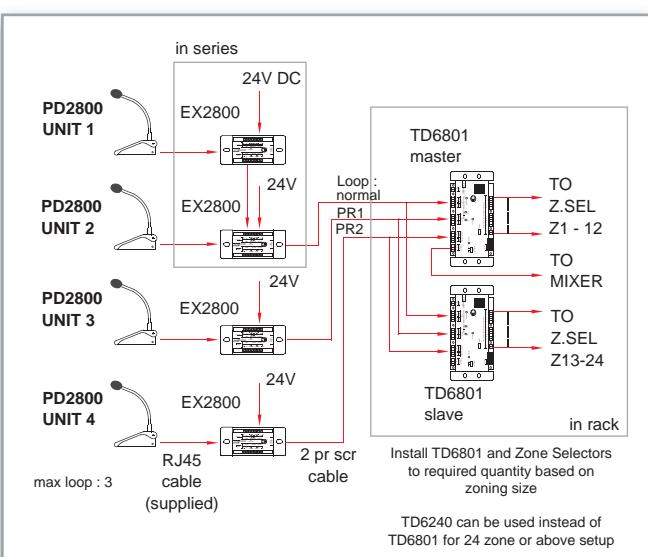
Multi point paging, connected in series using EX2800 would form a large network of paging points. 3 circuits or loops are allowed to be connected to TD6801 or TD6240 zone decoder with priority setting.

FEATURES

- 108 zone storage capacity with 9 programmable groupings, each shall consist of 12 zones
- Capable to page to 256 zones
- One touch button for ALL CALL activation
- RS485 data transmission for long distance remote paging, decoding via TD6801 or TD6240 and zone selection via Amperes zone selectors
- Flexibility in cabling for large setup ; looping or star
- Multi point paging setup with 3 priority lines
- LCD display for ease of paging and programming
- User selectable chime output tone
- Chime and mic volume control



APPLICATION SCHEMATIC





EP1200 is an essential paging tool for firemen during emergency, or when direct paging to all zone is required at the equipment rack. It shall allow direct access to the PA system which would bypass incoming BGM or other normal paging in progress.

Its built in siren tone generator can be triggered manually via the front panel switch or via external fire sensor or fire switch by providing a close contact to the connector at the back of the unit.

TECHNICAL SPECIFICATIONS

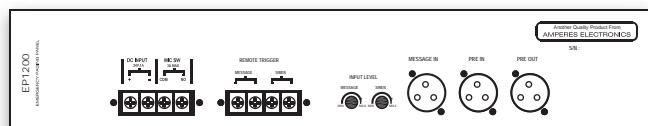
Power requirement	24V DC
Power consumption	3.5 W

MICROPHONE

Mic sensitivity	-72 dB Omni directional
Impedance	600 Ohm
Frequency response	300 ~ 8 KHz

SIREN

Siren frequency	Continuous at 8 KHz
Siren duration	Continuous when activated
Siren activation	Front test switch / remote contact
Input channel	Pre-amplifier output, message recorder
Output level	Balanced line out (1.2 V)
Priority sequence	Paging mic - siren - message - pre amp in
Indicators	Front FIRE with backlight illumination
Dimensions (WxHxD)	482 x 88 x 80 mm
Weight (kg)	2.9 kg

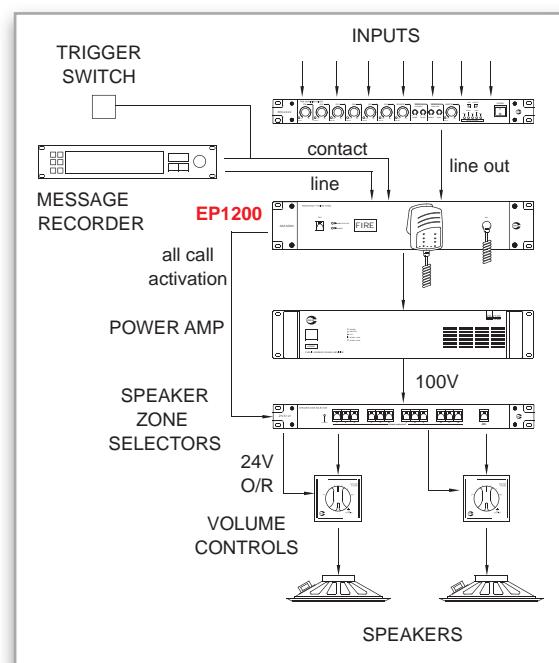


rear view

FEATURES

- Built in siren tone generator (constant signal)
- Visual FIRE indicator
- External voice message activation
- Dual mode siren tone activation
- Dry contact when paging mic is activated
- Priority paging via front panel microphone, bypassing all other audio sources
- Output level controls for siren and message / paging microphone

APPLICATION SCHEMATIC



packing information

Qty per carton : 1 unit
 W x H x D : 555 x 165 x 295 mm
 Weight : 3.7 kg

CM1400

Chime and Siren Tone Generator

CHIME UNIT

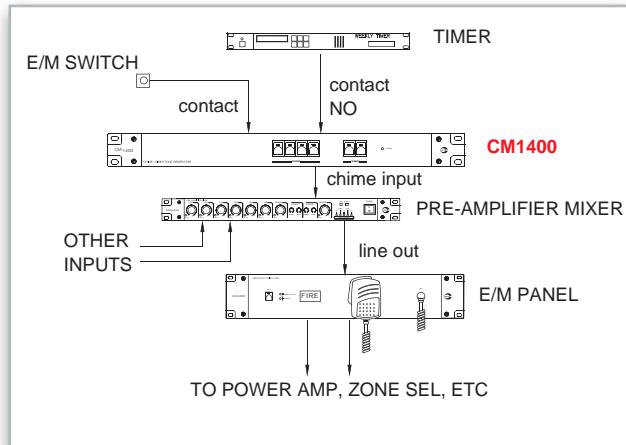


CM1400 offers 5 chimes and 2 siren tones with selectable balanced and unbalanced line output. Activation of chime shall be from front switches or via remote triggering terminal, enabling the unit to be linked to external sensors or triggering system such as alarm panel, remote mic or emergency switch. Siren has priority over chimes.

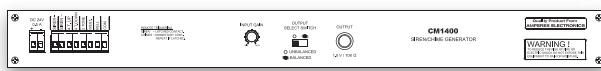
It is suitable for installation in schools, factories, hazardous areas etc.



APPLICATION SCHEMATIC



rear view



FEATURES

5 types of chimes and 2 siren
Adjustable output volume
Selectable output as balanced or unbalanced line
Front panel switch activation or via remote trigger port

TECHNICAL SPECIFICATIONS

Operating voltage	24V DC ; 0.5 A
Power consumption	0.3 A
Chime type	4 tone up, 4 tone down, 2 tone Ringing bell, Westminster
Siren type	Constant siren 8 KHz Wavy siren
External activation	Dry contact
Output	Line 1 V
Output impedance	10 K unbalanced
Gain	+4 dB max
Dimensions (WxHxD)	482 x 44 x 90 mm
Weight (kg)	1.6 kg

MICROPHONES

TC122
Condenser Tie Clip Mic



10m cable length with 3.5mm lockable stereo jack

GM8
Condenser Gooseneck Mic



XLR Male base

GM9
Condenser Gooseneck Mic



CB110
Handheld Mic



PP915
Phantom Power Adaptor for TC122



	TC122	GM8	GM9	CB110
Capsule	Back electret condenser			Dynamic
Polar pattern	Uni directional			Omni
Frequency response	50 ~ 16 KHz			300 - 8 KHz
Sensitivity	-45 dB +/- 3 dB			-72 dB
Output impedance	600 Ohm	1 K Ohm		600 Ohm
Power supply	9 ~ 12V DC Phantom power supply			-
Dimension (mm)	7.8 dia x 25	400	495	55 x 85
Weight (gm)	40	60	90	110



DATA ENCODER AND DECODER

TE6000 is used to convert analogue zone switching into RS485 data for long distance transmission of up to 1000 m. It shall also convert unbalanced signal to balanced line output which is a preferred way of long distance audio cable run. This eliminates the need of large multicore cables which may not be economical, inaccurate due to cable voltage drop and unwanted noise. Combination of multiple units of TE6000 shall enable large setup to be made.

TD6801 and TD6240 shall be the decoder at the receiving end for TE6000 encoder as well as Amperes PD2400 and PD2800 paging microphones. TD6801 has 12 switching outputs while its sibling TD6240 (rack mounted) has 24. Both accepts 3 input circuits, thus enabling multipoint paging configuration with different priority. More than one TD6801 or TD6240 can be linked to form a large network.

Data Encoder

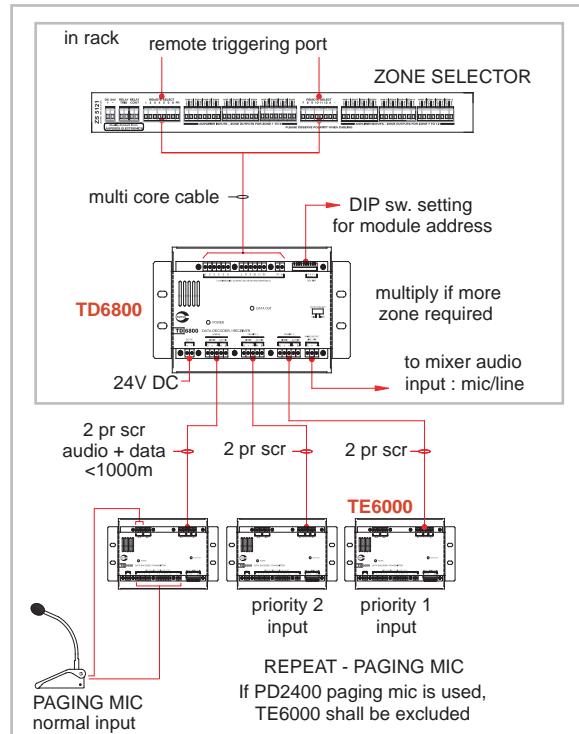
TE6000 : 12 Ch Switching Data Encoder



FEATURES

- Long distance switching data transmission over RS485
- Converts unbalanced into balanced audio signal for minimal noise interference in long distance cabling
- Expandable and addressable to cater for more zones
- Priority setting for multi point paging setup
- Compatible with most analogue paging microphones

APPLICATION SCHEMATIC



TECHNICAL SPECIFICATIONS

TE6000 / TD6801 / TD6240

Operating voltage	24V DC
Consumption	2.4W (100 mA)
Switching channels	12 / 12 / 24 with 1 priority
Cascade / max zones	15 / 15 / 8 (max 192 zones)
Input circuit	nil / 3 / 3
Output connection	Hardwired / Hardwired / RJ45

AUDIO

Input impedance (Ohm)	Mic : 600 ; Line : 10 K
Output impedance	600 Ohm balanced
Freq response	70 ~ 15 KHz
Audio input	Mic / Line
Max audio output	Line 1.1 V

DATA

Data protocol	RS485
Baud rate	19.2 K bps
Dim (W x H x D)	218 x 35 x 127 (TE6000/6801) 482 x 44 x 130 (TD6240)
Weight	550 g / 550 g / 1.6 kg

Data Decoder

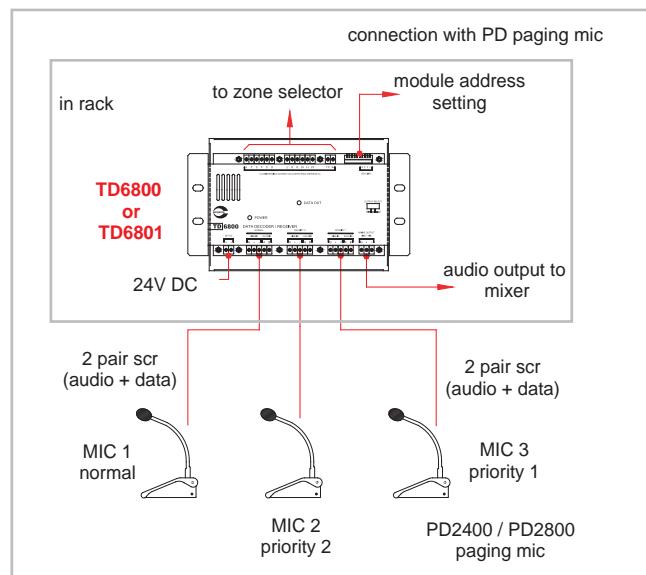
12 Ch Switching Data Decoder : TD6801 24 Ch Rack Mount Data Decoder : TD6240



FEATURES

- Expandable and addressable to cater for more than 12 zone
- Priority setting for multi point paging setup
- Selectable balanced audio output level
- Compatible with most zone selectors with remote triggering port
- Rack mounted or modular unit available
- Connect directly to ZS5601 / 5121 via remote triggering port

APPLICATION SCHEMATIC



MX2222

12 Input Pre-Amplifier Mixer

PRE-AMPLIFIER MIXER



This compact 1 hu pre-amplifier mixer features 6 mic, 4 BGM sources, chime and external line inputs and is suitable for any application, such as meeting room, lecture theatre, hall of prayer and definitely commercial fixed PA installation.

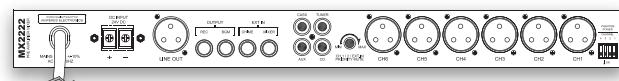
It dual output feature can be used for uninterrupted paging setup, ie. BGM and paging announcement. Adjustable priority muting level is available for paging announcement to override BGM and other lower priority sources. Adjusting it to minimum and the unit shall work like any other mixing unit and it comes with 12V phantom power supply for mic input 1 to 4.

FEATURES

- 12 inputs of mic, BGM sources, ext.chime and mixer link
- Expandable to form more channels for larger setup
- Auto mic muting with adjustable mixing level for mic Ch.1, 2, ext.chime and mixer link
- Priority muting with disable option for normal mixing mode
- Switchable phantom power for mic channel 1 to 4
- Dual output ; mixed line and BGM output for uninterrupted paging setup
- Independently adjustable BGM output level with balanced line
- Built in daisy chain source selector with last selection memory
- Bass and treble tone control
- AC and DC operation for uninterrupted operation during power failure



rear view



TECHNICAL SPECIFICATIONS

Operating voltage	230 / 240 V ac / 24 V DC
Power consumption	2.4W on 240 V ac / 100 mA on 24 V DC
Input channels	6 x mic ; 4 x BGM ; ext chime in ; mixer link
Input impedance	Mic : 600 Ohm BGM : 47 K Ohm unbalanced Chime input : 10 K Ohm unbalanced Mixer link : 600 Ohm balanced
Sensitivity	Mic : 0.775 mV BGM : 0.2 V Chime : 0.7 V Mixer : 0.7 V
Output level	1.2 V XLR balanced (mixed output) 1.0 V phone jack balanced (BGM output)
Output impedance	600 Ohm balanced
Controls	Mic channel ; chime ; mixer input Master mixed ; BGM ; Bass and treble controls
Phantom power	12V DC switchable at mic 1 to 4
Frequency response	175 ~15 kHz (+/- 3 dB at 1KHz) with low cut
S/N ratio	> 60 dB at 1 KHz
Dimensions (WxHxD)	482 x 44 x 180 mm
Weight (kg)	2.55 kg

packing information

Qty per carton : 1 unit
W x H x D : 555 x 95 x 295 mm
Weight : 3.2 Kg

APPLICATION SCHEMATIC

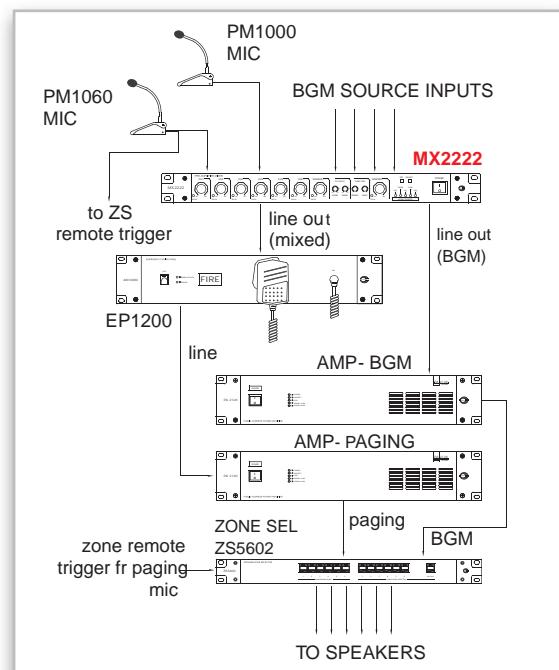
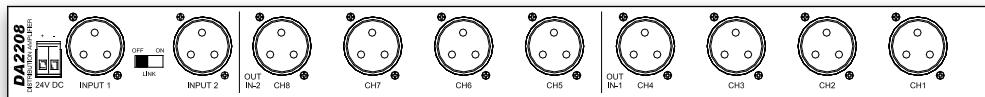


illustration for uninterrupted paging system.



Whenever an audio signal from pre-amplifiers are looped to too many amplifier inputs (typically exceeding six), the fidelity of the original waveform would be distorted and installing a distribution amplifier shall be able to overcome the problem.

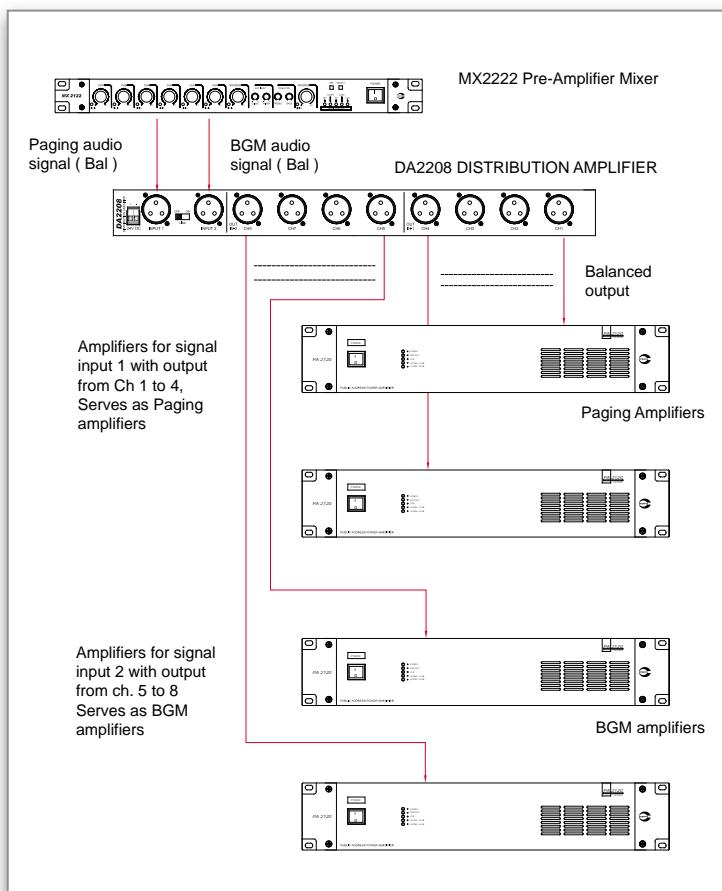
DA2208 consists of 2 sets of 1 in 4 out distribution amplifier with option to form 1 in 8 out unit. Each channel shall has its own treble and bass control for better fine tuning the overall installation accordingly to type of speakers used or the acoustic environment of the zone.



FEATURES

- Operates as dual channel 1 input 4 output or single channel 1 input 8 output
- Individual bass and treble control with volume adjustment
- Direct input signal to output whenever DC power input not available or whenever power failure occurs

APPLICATION SCHEMATIC



packing information

Qty per carton : 1 unit
 W x H x D : 555 x 95 x 295 mm
 Weight : 3.2 Kg

The above illustration is for Uninterrupted Paging setup. In normal setup with single input, use the link switch to form 1 input 8 outputs configuration. Each output from DA2208 can be linked up to 6 power amplifiers.

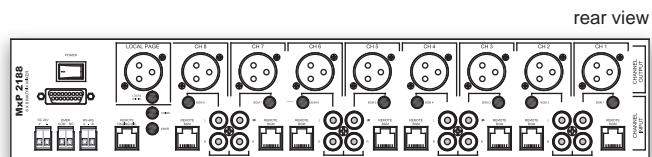


MxP2188 caters for a more delicate requirements of a PA system where every zone shall have flexibility over choice and taste of what should be listened to. It shall be able to cater for small installations of up to 16 zones requiring full matrix setup, such as office, club house, bungalow and entertainment centre.

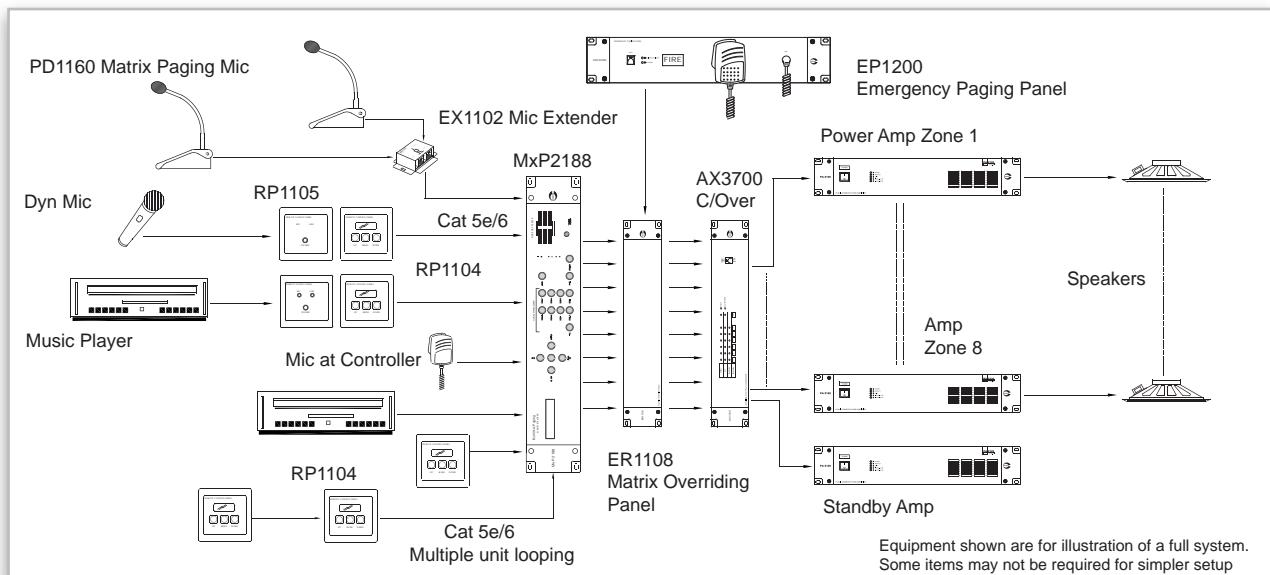
While conventional matrix system only perform signal routing, MxP2188 does more than that. Essential features for a commercial PA system such as emergency overriding, remote mic zone selection, audio monitoring, chime and recording are available as an integral part of the unit.

FEATURES

- 8 input and 8 output Matrix controller with inputs of either Mic or BGM or fed from remote source panel
- Individual channel setup for bass, treble and volume
- Built in chime with selectable 2 or 4 tone output
- Built in voice recorder of up to 60 seconds
- Audio output monitor for every zone
- Remote triggering port for message and siren
- Priority override dry contact port whenever ALL CALL is triggered
- Microphone input for paging at rack
- Remote paging desk connectivity to Amperes PD1160



APPLICATION SCHEMATIC



TECHNICAL SPECIFICATIONS

Configuration	8 x 8 ; Cascade to 8 x 16
Power source	24V DC ; 2A via adaptor
Inputs	8 local BGM - unbal. line or 8 remote BGM via RP1105 1 remote paging mic PD1160 1 local mic input
Input connections	RJ45 (remote) / RCA jack XLR for local mic input
Input volume control	Manual adj. at each channel
Bass and treble control	+12 dB to -12 dB ; digital select
Phantom power	12V DC (local mic in only)
Priority input	Local page, E/M message
Chime	2 or 4 tone built in
Message recording	60 secs max in single bank

Output	8 x balanced line output
Zone selection	Remote paging mic (PD1160) ; Front panel with ALL CALL
E/M override contact	3A dry contact
Audio monitor	Source monitor with volume control via 3W speaker
Communication	RS485 ; 19.2 Kbps
Remote triggering	Siren (ALL CALL) Message (ALL CALL / individual)
Dimensions (WxHxD)	482 x 88 x 300 mm
Weight	6.0 kg

packing information

Qty per carton : 1 unit
W x H x D : 555 x 165 x 295 mm
Weight : 7.2 Kg



PD1160 8 / 16 Zone Remote Paging Microphone



A dedicated remote paging desk with 8 / 16 channel zone selection, connected directly to MxP2188 controller. To achieve multipoint paging setup, use EX1102 mic extender in series connection.

Power source	24V DC via MxP2188
Power consumption	800 mA
Communication	RS485 ; 19.2 kbps
Controls	Zone selection, ALL CALL
Indications	Power, signal, data, zone, busy
Mic	Condenser, cardioid
Output	Balance line output
Dimensions (WxHxD)	150 x 186 x 62 mm (body only)
Weight	1.2 kg

RP1104 Remote Zone Control Panel



RP1104 is an improved version of remote zone controller with sensor touch buttons and with LCD display. It shall be installed at remote location at individual zone and connected to the MxP2188 controller via Cat5e / 6 cable. Each controller shall run individually to each input port of the respective zone.

Power source	24V DC via MxP2188
Power consumption	100 mA
Communication	RS485 ; 19.2 kbps
Controls	Volume, BGM source
Indications	Power, source, volume, busy
Cabling	Cat 5E / 6
Distance	Up to 1000m
Dimensions (WxH)	86 x 86 mm
Weight	100 g

RP1105 Remote Source Input Panel



RP1105 is also an upgraded version of remote source input panel which is to be used together with RP1104, installed side by side.

It allows mic or line level input source with adjustable volume and shall be bypassed if emergency paging is activated at the controller.

Power source	24V DC via MxP2188
Power consumption	100 mA
Communication	RS485 ; 19.2 kbps
Controls	Volume
Inputs	Mic or Line (unbal.), mini jack
Cabling	Cat 5E / 6
Distance	Up to 500m
Dimensions (WxH)	86 x 86 mm
Weight	100 g

EX1102 Paging Mic Extender



When multipoint paging is required, EX1102 shall be used, with each PD1160 connected in series in a single circuit. The mic nearest to the Matrix controller shall have priority over its precedence.

MS1103 Paging Mic Splitter



EX1102 shall split incoming paging microphone circuit into two, with one output connected to the Master controller while the other to the Slave controller.

It is applicable whenever two controllers are cascaded to form 16 channel matrix setup.

Matrix Overriding ER1108



ER1108 is an 8 in / 8 out relay panel which would override all individual audio signal from Matrix controller and re-route the outputs to a single emergency source such as EP1200 emergency paging panel.

It is an optional item, and shall be installed after the Matrix controller with outputs to individual amplifier of each zone. EP1200 shall be used with emergency trigger and audio output connected to this unit



MA / MB2000 SERIES MIXER AMPLIFIERS

MA2060 : 60 W 100V Mixer Amp with 3 Zone Output
 MA2012 : 120 W 100V Mixer Amp with 3 Zone Output

MB2106 : 60 W 100V Basic Mixer Amp
 MB2112 : 120 W 100V Basic Mixer Amp



MA and MB Series of mixer amplifiers are suitable for small installations such as in showroom, small meeting hall, lecture theatre, etc. Both series are available in 60W and 120W 100V lines, featuring 6 mic / line inputs, bass and treble controls.

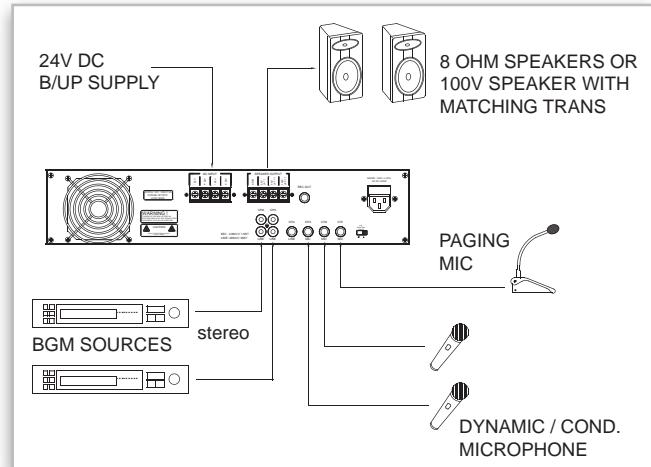
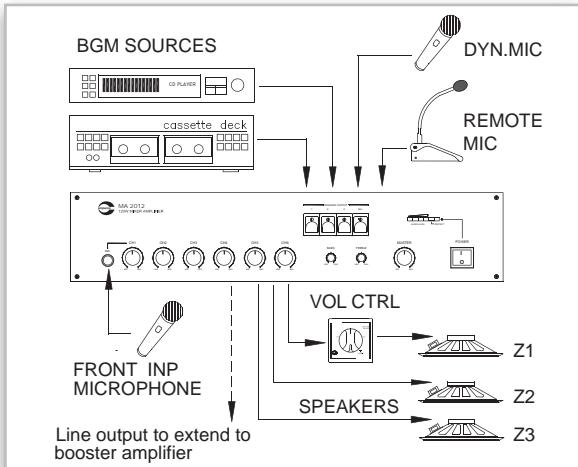
MB2106 and MB2112 are basic version whereas MA2060 and MA2012 comes with 3 zone selection with remote triggering port and some additional feature to offer greater flexibility in operation. Various protection features are incorporated in both version, such as thermal protection, short circuit cut off and circuit breakers, providing a piece of mind in operating the unit.

FEATURES

6 mic / line selectable input channels, with front mic jack, phantom power
 Priority muting for mic input 1 with adjustable muting level
 3 zone speaker output with ALL CALL and remote triggering port
 100V line output with aux 4 ohm speaker terminal
 Tone and bass controls
 AC / DC operation for fixed and uninterrupted operation

6 inputs for mic and line with phantom power for input 1
 Tone and bass controls
 70 / 100V line output with 4 Ohm terminal with audio line output
 Short circuit, thermal protections
 AC/DC operation for uninterrupted operation

APPLICATION SCHEMATIC



TECHNICAL SPECIFICATIONS

	MA2060	MA2012	MB2106	MB2112
Rating	60W 100V line	120W 100V line	60W 100V line	120W 100V line
Operating Voltage	230~240V ac / 24V DC		230~240V ac / 24V DC	
24V DC requirement	3A	5A	5A	8A
Current (Load / Standby)	1.3A / 0.4A	2.2A / 0.4A	1.3A / 0.4A	2.2 / 0.4A
Input channel	6 : 2 Mic (XLR), 4 Mic / line selectable (RCA / phone jack)		6 : 3 Mic, 1 Line (phone jack), 2 Line (RCA)	
Input phantom power	Mic 1 and 2 ; 12V DC		Mic 1 switchable ; 12V DC	
Input sensitivity / impedance	Mic : 2.45 mV / 2K Ohm balanced Line : 245 mV / 30K Ohm unbalanced RCA : 495mV unbalanced		Mic : 2.45 mV / 1.5K Ohm balanced Line : 245 mV / 35K Ohm unbalanced RCA : 245 mV unbalanced	
Tone controls	Bass (100 Hz) ; Treble (10 KHz)		Bass (150 Hz) ; Treble (10 KHz)	
Outputs	3 Zone 100V line, 4 Ohm		4 Ohm, 70 / 100V line	
Output selection	Front and remote triggering		nil	
Frequency response	175 ~ 18 KHz		175 ~ 15 KHz	
Protections	Thermal, short circuit, AC and DC circuit breaker		Thermal, short circuit, ac fuse	
Indicators	AC mains, clip, protect, audio input level		AC mains, protect, audio input level	
Cooling system	Dual speed fan with heat sensing		Dual speed fan with heat sensing	
Dimensions (WxHxD)	88 x 424 x 300 mm		88 x 424 x 300 mm	
Weight (kg)	9.9	12	8.4	10.5



PA310 : 10 W 4 Ohm Mini Amplifier
 PA320 : 20 W 4 Ohm Mini Amplifier
 PA330 : 30 W 100V Line Mini Amplifier

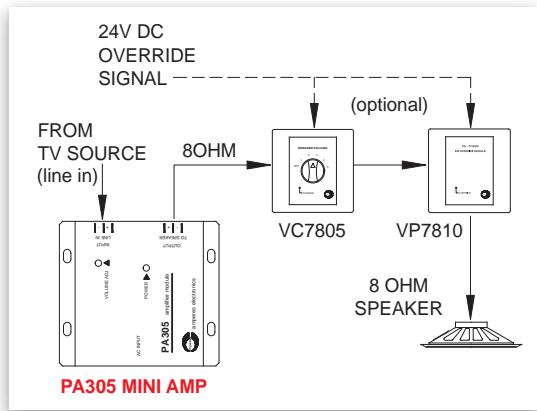
FEATURES

Available in 10 or 20W 4 Ohm rating or 30W 100V line
 Adjustable volume control for volume preset
 Compact size for easy installations

Amperes PA310 and 320 are mini amplifiers used to amplify BGM signal to a speaker of 4 or 8 Ohm, such as from TV output to a bathroom speaker in a hotel room. Amperes VC7805 volume controller and VP7810 BGM-Speaker patch panel can be installed if required to allow emergency paging to be announced at the speaker.

Other applications include simple mic calling system at counters or as an amplifier module to some other system which need to broadcast audio output to a speaker, ie. queue management system or telephone intercom.

APPLICATION SCHEMATIC



PA310



PA320



PA330

Amperes PA330 has higher rating of 30W 100V line which accepts unbalanced line input. It can be used as remote amplifier in a decentralised PA system. Among applications include classroom paging and paging for remote station.

Using TS6100 (step down module) shall allow PA330 to accept 100V line input and thereby a very large network of paging can be implemented in a wider area.

TECHNICAL SPECIFICATIONS

	PA310	PA320	PA330
Rating	10W 4 Ohm	20W 4 Ohm	30W 100V Line
Operating Voltage		230~240V ac	
Current consumption	0.06A	0.14A	0.17A
Input signal	Mono ; unbalanced line		
Input sensitivity	40 mV		
Max input	1.2 V		
Input impedance	150 K Ohm		10 K Ohm
Frequency response	100 - 18 KHz (+/- 3 dB)		150 - 15 KHz
Controls	Input volume preset		
Indications	Power LED		
Dimensions (WxHxD)	103 x 45 x 91	103 x 54 x 101	160 x 95 x 170
Weight (kg)	480 g	700 g	2.9 kg

no standard packing available



PA2120 : 120W 100V
PA2240 : 240W 100V
PA2360 : 360W 100V
PA2480 : 480W 100V

PA2000 SERIES POWER AMPLIFIERS

Amperes PA series of power amplifiers had been the workhorse of many installations and are available in power ratings of 120W to 480W 70 / 100V line. Various features had been added throughout the years since its inception and these had enhanced their performance and reliability.

Amperes AS4000 / AX700 can be used alongside with PA series of amplifiers to form an automatic amplifier fault changeover setup or to be much simpler, Amperes AX3700 is recommended to serve the same purpose.

FEATURES

Available in various ratings ; from 120W to 480W 70 or 100V line
 4 Ohm speaker connection available with 25V output
 Thermal protection by muting input signal (typically 85 deg at heat sink)
 Momentary short circuit protection
 Temperature dependent dual speed cooling fan
 Manual reset circuit breaker for AC mains and DC input
 Balanced input signal with gain control and selectable grounding option
 AC and DC operation for uninterrupted operation during power failure



PP2240 / 2360 / 2480



PP2120

TECHNICAL SPECIFICATIONS

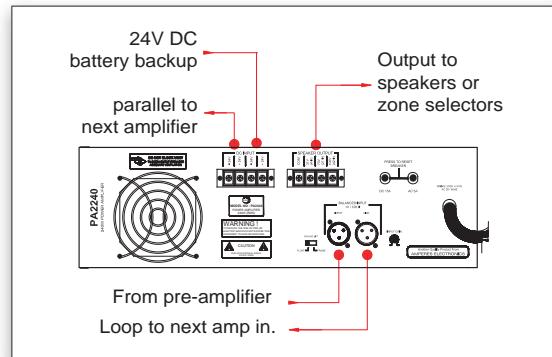
PA2120 / PA2240 / PA2360 / PA2480

Power requirement	230 / 240 V ac (24V DC backup)
24V DC requirement	8A / 19A / 23A / 29A
Pwr consumption (load) ac	1.4A / 3A / 3.4A / 4.5A
Pwr consumption (s/b)	0.4 A
Input sensitivity	1 V / 10 K Ohm
Input gain control	-15 dB ~ 0 dB
Input connection	XLR balanced line input
Rated output (rms)	120W / 240W / 360W / 480W 100V line
Output voltage (4 Ohm)	22 / 31 / 38 / 44 V rms
Output imp (70 V line)	42 / 21 / 13 / 10.2 (100 V line) 83 / 42 / 27.8 / 20.8
Frequency response	180 ~ 17 KHz (+/- 3dB at 1 KHz) with low cut
S / N ratio	> 60 dB (@ 1KHz)
Protections	Thermal, momentary output short circuit, AC and DC circuit breaker, Input signal clip
Indicators	AC mains, Clip, Protect, Input level
Cooling system	Dual speed fan with heat sensing
Dimensions (WxDxH)	PA2120 : 88 x 482 x 300 mm PA2240 / 2360 / 2480 : 133 x 482 x 300 mm
Weight (kg)	11.0 / 20.5 / 21.2 / 25.1 kg

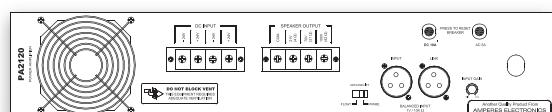
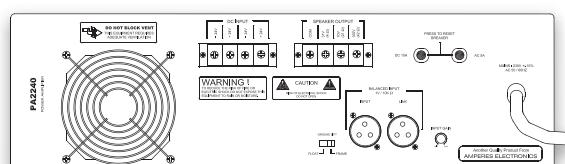
packing information

Qty per carton : 1 unit
 W x H x D : PA2120 : 550 x 215 x 420 mm
 PA2240 / 2360 / 2480 : 550 x 215 x 420 mm
 Weight : PA2120 - 12.2 kg
 PA2240 - 21.8 kg
 PA2360 - 22.5 kg
 PA2480 - 26.4 kg

APPLICATION SCHEMATIC



rear view PA2240 / 2360 / 2480



rear view PA2120



PX series of power amplifiers are equipped with AFS (Auto Fault Sensor) which generate pilot tones internally and automatically diagnose and detect any faulty condition that may occur at the output end. Pilot tones are generated at intervals to avoid straining the power packs, and this shall prolong the life span of the units.

PX series of amplifiers shall be linked to Amperes AX700 changeover unit for standby amplifier takeover in the event a duty unit fails, enabling automatic amplifier fault changeover setup.



PX2200 / 2300 / 2400

PX2100 : 120W 100V
PX2200 : 240W 100V
PX2300 : 360W 100V
PX2400 : 480W 100V

FEATURES

- Incorporating Auto Fault Sensing (AFS) circuitry for self monitoring of its output
- Pilot tone switchable for normal operation without AFS
- Interval PT generation to avoid continuous loading of the amplifier
- Thermal protection by muting input signal (typically 85 deg at heat sink)
- Temperature dependent dual speed cooling fan
- Manual reset circuit breaker for AC mains and DC input
- Balanced input signal with gain control and selectable grounding option
- AC and DC operation for uninterrupted operation during power failure

TECHNICAL SPECIFICATIONS

PX2100 / PX2200 / PX2300 / PX2400

Power requirement	230 / 240 V ac (24V DC backup)
24V DC requirement	8A / 19A / 23A / 29A
Pwr consumption (load) ac	1.4A / 3A / 3.4A / 4.5A
Pwr consumption (s/by)	0.4 A
Input sensitivity	1 V / 10 K Ohm
Input gain control	-15 dB ~ 0 dB
Input connection	XLR balanced line input
Rated output (rms)	120W / 240W / 360W / 480W 100V line
Output voltage (4 Ohm)	22 / 31 / 38 / 44 V rms
Output imp (70 V line)	42 / 21 / 13 / 10.2
(100 V line)	83 / 42 / 27.8 / 20.8
Frequency response	180 ~ 17 KHz (+/- 3dB at 1 KHz) with low cut
S / N ratio	> 60 dB (@ 1 KHz)
Protections	Thermal, momentary output short circuit, AC and DC circuit breaker, Input signal clip
Indicators	AC mains, Clip, Protect, Input level, Pilot tone, Fault
Cooling system	Dual speed fan with heat sensing
FAULT DETECTION	
Detection interval	10 seconds
Detection response	15 - 25 seconds
Detection method	Internal Pilot Tone generated at 20 kHz
Failure recovery time	20 seconds max
Failure output	Dry contact (NO at 3A rating)
Dimensions (WxHxD)	PX2100 : 88 x 482 x 300 mm PX2200 / 2300 / 2400 : 133 x 482 x 300 mm
Weight (kg)	11.1 / 20.6 / 21.3 / 25.4 kg

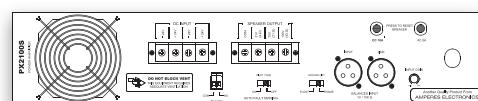
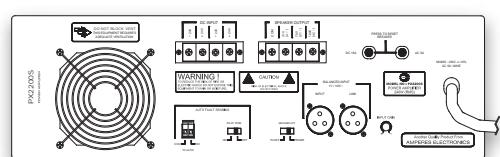
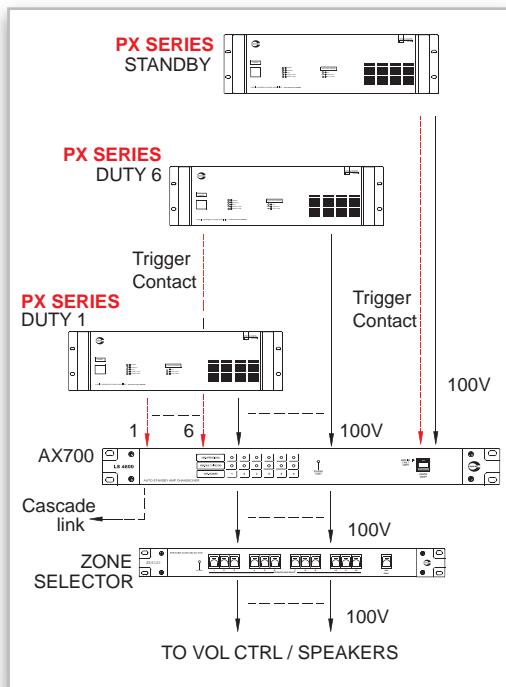
packing information

Qty per carton : 1 unit
W x H x D : PX2100 : 550 x 175 x 420 mm
PX2200 / 2300 / 2400 : 550 x 215 x 420 mm
Weight : PX2100 - 12.3 kg
PX2200 - 21.9 kg
PX2300 - 22.6 kg
PX2400 - 26.7 kg

rear view : PX2200 / 2300 / 2400

rear view : PX2100

APPLICATION SCHEMATIC





Amperes AC3601 is a manual changeover panel for 6 duty with 1 standby amplifier and is required for a standby unit to take over a failed duty amp to ensure uninterrupted and continuous operation of a PA system. More than one AC3601 can be cascaded for a single standby unit to cater for more than 6 duty packs.

Protection circuitry is embedded that only allows one failed duty amplifier to be taken over by standby unit to prevent overloading. Priority features shall ensure higher numbered failed unit has preference for changeover.



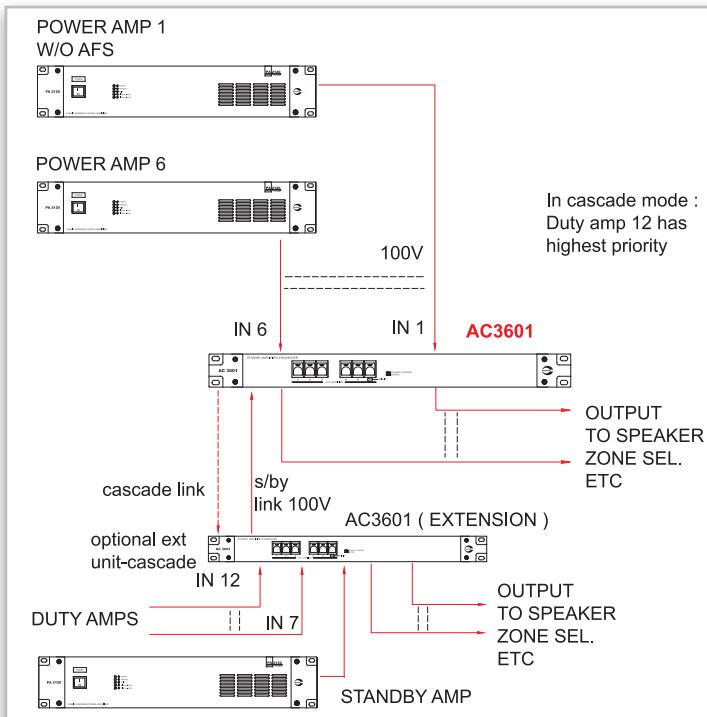
FEATURES

- Cater for 6 duty and 1 standby amplifier
- Expandable for 1 standby to serve more than 6 duty units
- Overload protection by allowing only a single take over
- Prioritized changeover - unit with higher number is preferred for changeover
- Manual front panel changeover selection

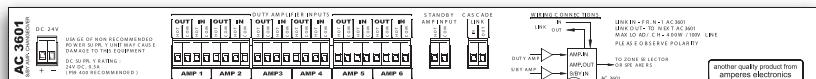
TECHNICAL SPECIFICATIONS

Operating voltage	24V DC via PS9400 PSU
Power consumption	Standby : 82 mW, 3.4 A Operating : 1.3 W, 50 mA
Zone load rating	400 W / 100V line per ch.
Amplifier inputs	6 duty / 1 standby
Changeover indication	Front switch LED
Switching mode	Via front panel switch
Cable connection	Plug in connectors
Cable size	2.5 mm sq
Dimensions (WxHxD)	482 x 44 x 130 mm
Weight	2.0 kg

APPLICATION SCHEMATIC



rear view



packing information

- Carton : 555 (W) x 95 (H) x 295 (D) mm
- Weight : 2.60 kg
- Qty : 1 units / carton

AX700 is a platform for standby amplifier to take over failed duty unit in an automated changeover setup. Each unit caters for 6 duty and 1 standby amplifier but expandable to larger setup with a single standby power pack.

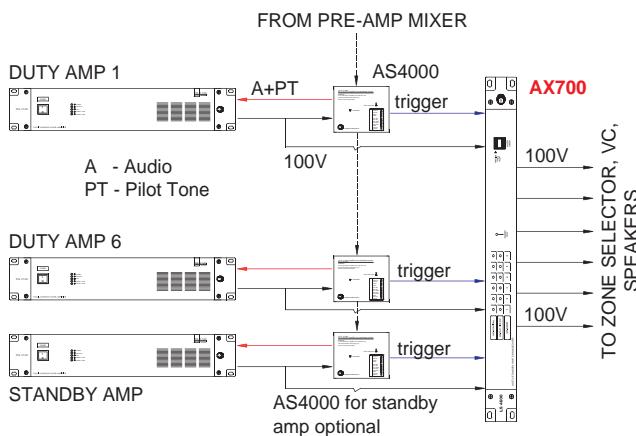
It shall be used with amplifiers with auto fault sensing (AFS) such as PX series and whereas normal amplifiers are used, Amperes AS4000 shall be installed at every duty unit. In such case, we recommend that Amperes AX3700 to be used instead.

AX700 has protection features that only allow a single takeover to prevent overloading.



APPLICATION SCHEMATIC

Application with AS4000 amplifier surveillance module



FEATURES

Cater for 6 duty and 1 standby amplifier

Expandable for 1 standby to serve more than 6 duty units

Overload protection by allowing only a single take over

Prioritized changeover - unit with higher number is preferred for changeover

Fault alert with LED indicator and switchable buzzer

Compatible with most auto detection cards

AMPLIFIER CHANGEOVER & MONITORING

TECHNICAL SPECIFICATIONS

Operating voltage	24V DC via PS9400 PSU
Power consumption	Standby : 82 mW, 3.4 A Operating : 1.3 W, 50 mA
Zone load rating	400 W / 100V line per ch.
Amplifier inputs	6 duty / 1 standby
Indications	Red LED for takeover Green - normal / non c/over
Switching mode	Dry contact activation by AS4000 / other contacts
Changeover alert	Buzzer, LED
Changeover section	Amplifier outputs only
Cable connection	Plug in connectors
Cable size	2.5 mm sq
Dimensions (WxHxD)	482 x 44 x 130 mm
Weight	2.0 kg

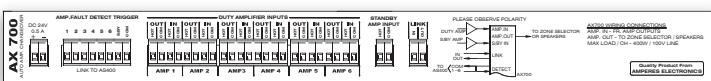
packing information

Carton : 555 (W) x 95 (H) x 295 (D) mm

Weight : 2.60 kg

Qty : 1 units / carton

rear view





Amperes AX3700 offers a great flexibility and simplicity in cabling for auto amplifier fault changeover system with its combination of amplifier fault sensor modules and changeover panel in a box. The internally generated Pilot Tone and sensory circuit shall detect any faulty duty amplifier and would initiate a changeover process.

AX3700 has been optimised for faster fault detection and changeover as compared with AS4000 modules. Pilot tones are generated at intervals to avoid constant loading of power amplifiers.

Changeover are performed at both input and output sections, making it suitable for application in a matrix system. At any one time, only a failed duty unit shall be replaced by a standby amp, to avoid overloading.



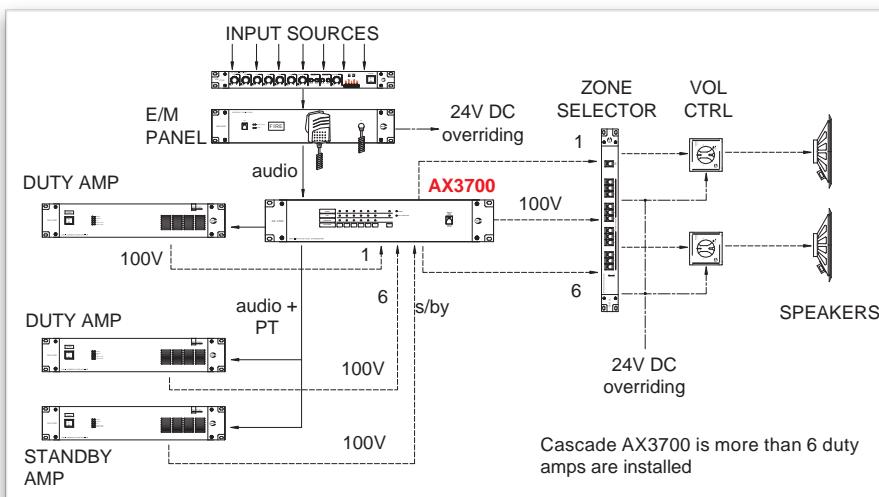
FEATURES

- Cater for 6 duty and 1 standby
- Expandable for 1 standby to cater for more than 6 duty amps.
- Built in Pilot Tone generator, transmit at intervals and senses at sequence to protect amplifiers
- Overloading protection by allowing only a single take over
- Prioritised changeover which higher numbered amplifier shall be preferred for take over if more than two units are down
- Shorter fault detection time from 10 to 25 seconds
- Changeover at input and output section simultaneously ; suitable for matrix system installations
- Input link switch ; making connection of sources easier
- Channel isolation switch for unused or un-monitored channel
- Individual channel status indicators : normal, fault and changeover

TECHNICAL SPECIFICATIONS

Operating voltage	24V DC 1 A via PS9400 PSU
Power consumption	7.2 W
Input signal	6 ch. balanced line signal
Input impedance	10 K Ohm
Audio output gain	Unity
Pilot tone interval	10 secs / channel
Pilot tone frequency	20 KHz (+/- 5%)
Detection line	70 / 100 V line
Detection level	50 V rms
Failure detection time	10 ~ 25 seconds
Failure recovery time	20 seconds max
Zone load rating	400W / 100V line
Status indications	Normal ; Fault ; Changeover
Changeover alert	Buzzer with switch
Changeover section	Input and Output simultaneously
Dimensions (WxHxD)	482 x 88 x 150 mm
Weight	3.4 kg

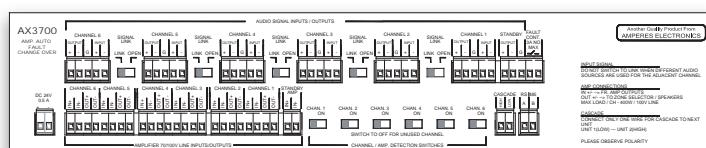
APPLICATION SCHEMATIC



packing information

Carton : 555 (W) x 165 (H) x 295 (D) mm
Weight : 4.2 kg
Qty : 1 units / carton

rear view

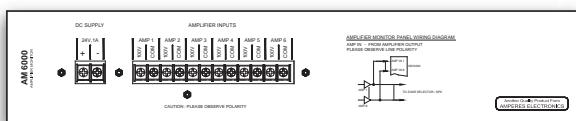




AM6000 shall be used to monitor the condition of amplifier outputs of 70 / 100V line at the rack which is equipped with level meter, amplifier output LED and speaker for audio monitoring. It can also be used as a tool to calibrate sound output level of each amplifier from the rack.



rear view

**packing information**

Carton : 555(W) x 165(H) x 295(D) mm
Weight : 3.1 kg
Qty : 1 units / carton

FEATURES

- 6 inputs for 70 / 100 V line amplifier outputs
- Dual mode monitoring with continuous signal indicator
- Audio monitoring with volume control

TECHNICAL SPECIFICATIONS

Operating voltage	24V DC via PS9400 PSU
Power consumption	50 mW
Amplifier inputs	6 : 70 / 100V line
Monitoring mode	Audio : 1 W speaker with 5 presets Visual : 9 segment LED level meter LED for all channels
Dimensions (WxHxD)	482 x 88 x 130 mm
Weight	2.3 kg

AS4000

Amplifier Surveillance Module



AS4000 is used to monitor the status of 70 / 100 V line power amplifiers which do not have built in detection module. Every amplifier shall employ one AS4000 and the dry contact output from the unit shall then be connected to Amperes AX700. Repeating this link shall then form an automatic amplifier fault changeover / surveillance system.

FEATURES

- Interval Pilot Tone injection ; reduces strain to amplifiers
- Works independently with or without availability of audio signal
- Low distortion to original audio signal
- Status monitoring via LED ; Pilot Tone and amplifier fault
- Compatible with most 70 / 100 V line amplifiers in the market

TECHNICAL SPECIFICATIONS

Operating voltage	24V DC via PS9400 PSU
Power consumption	200 mW nominal
Input impedance	10 K balanced
Output impedance	600 Ohm balanced
Max audio input	0.75 V
Max audio output	1.2 V
Transmit interval	10 seconds
Detection delay	20 seconds
Recovery time	30 seconds
Frequency response	20 - 20 KHz
Detection output	NO and NC dry contact
Dimensions (WxHxD)	120 x 96 x 28 mm
Weight	330 gms

APPLICATION SCHEMATIC

Please refer to schematic in AX700 ; "Application with AS4000 amplifier surveillance module "



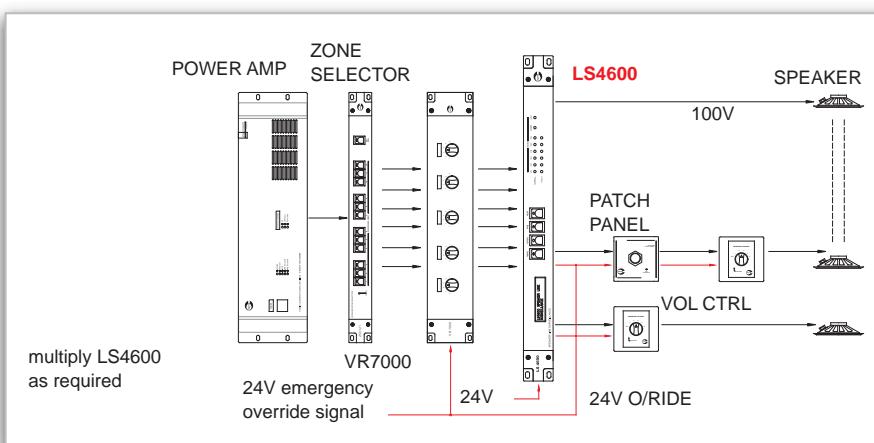
LS4600 monitors the condition of speaker line for faults such as ground leakage, short circuit and open circuit. It employs impedance measurement method with detection tone, and this would eliminate the use of blocking capacitors and resistors in the speaker network. Upon detection of flaws, it would provide fault alert via LED indications and buzzer.

This improved LS4600 (version 2) has wider detection range as compared to its predecessor, from 10 Ohm to 10 KOhm. Other added features included are two level of detection setup - basic and advance, circuit fault disconnection option, improved accuracy and stability.

TECHNICAL SPECIFICATIONS

Operating voltage	24V DC via PS9400 PSU
Power consumption	3.5 W
Capacity	6 channel and expandable
Processor	PIC microcontroller with 12 bit ADC
Impedance detection range	10 to 10 K Ohm
Power measurement range	3 to 1000 W 100V line
Measurement accuracy	+/- 3% within range
Pilot tone injection frequency	1 KHz
Pilot tone signal output level	5V sine
Transmittal detection period	3 seconds per channel
Detection interval	User preset from 1 min to 48 hrs
Sensitivity setting	User preset at each channel
Indicators - LED	Normal, Fault, Buzzer, Auto run
Display LCD	2 x 16 characters sigh back light setting
Audible output signal	Continuous buzzer with Off option
Dry contact setting	3A
DC output in detection mode	24 V DC for individual channel
Dimensions (WxHxD)	482 x 44 x 130 mm
Weight	2.3 kg

APPLICATION SCHEMATIC

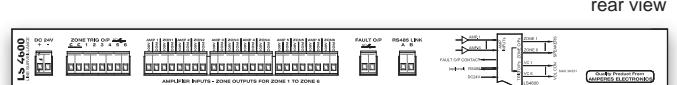


packing information

Carton : 555(W) x 165(H) x 295(D) mm
 Weight : 2.9 kg
 Qty : 1 units / carton

FEATURES

- 6 channel speaker line monitoring and expandable
- Basic and Advance level of detection setup
- Detection of faulty cable and speaker in individual zone or circuit
- Impedance measurement method - no capacitor coupling required and cable branching allowed.
- Faulty circuit disconnection option
- Built in impedance meter, range within 10 Ohm to 10 KOhm
- LCD display to facilitate system setup, measurement and monitoring
- Fault alert with LED indicators and switchable buzzer
- Detection test interval setting from 1 min to 48 hours
- Short burst test signal, minimizing interruption to PA operation
- User setting for detection sensitivity for open, short and leakage
- Aux 24V DC output for volume controller overriding during testing mode



rear view



SPEAKER ZONE SELECTOR

6 Ch Speaker Zone Selector : ZS5601
12 Ch Speaker Zone Selector : ZS5121

ZS5601 and 5121 are trusted product for speaker zone selection which had been used for nearly a decade.

They provide direct zone switching for single source PA setup via front panel switches or through remote port connected to Amperes PM Series paging desk, or through Amperes TD decoders when PD series of paging desks are used. Other makes of paging consoles are compatible with ZS provided they have negative triggering switching ports.

A distinctive feature shall be the remote override function which bypasses local zone selection whenever a paging mic connected to it is activated. The individual input and output connections make it flexible for amp-zone configurations as well as for matrix setup.



FEATURES

- Available in 6 (ZS5601) and 12 zone (ZS5121) respectively with ALL CALL
- Expandable to more zones as required
- Remote zone triggering port via external paging microphone or console
- Paging override by Amperes paging console with Priority override indicator
- Emergency paging mic triggering port with dry contact for volume controller overriding application
- Flexible amplifier to zone configuration

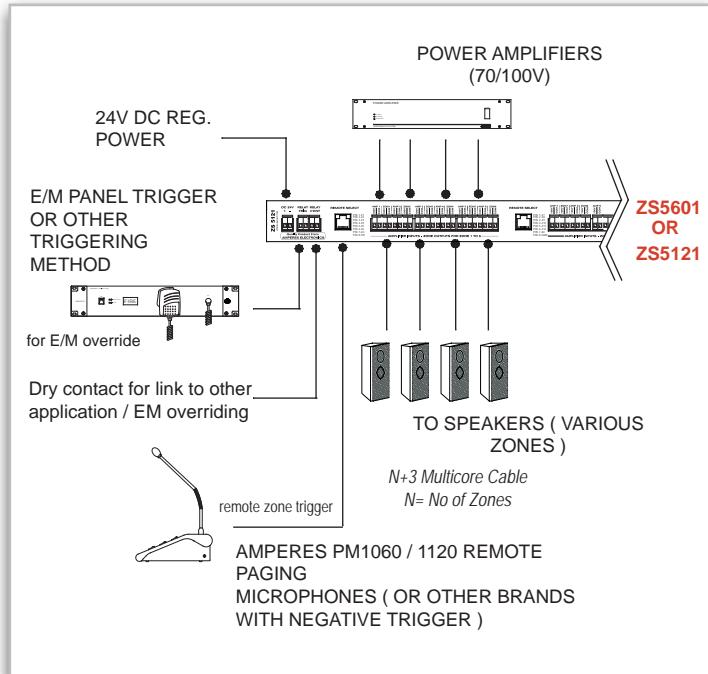
TECHNICAL SPECIFICATIONS

Operating voltage	24V DC ; 0.5 A
Power consumption	ZS5601 : 3.5W , 0.14A w ALL CALL ZS5121 : 6.8W , 0.28A w ALL CALL
Max load / channel	400W at 100V line
Number of zones	6 (ZS5601) ; 12 (ZS5121)
Amplifier inputs	6 (ZS5601) ; 12 (ZS5121)
Zone selection	Front panel switch and remote
Cascade limitation	Unlimited
Remote triggering	- ve triggered (common ground)
Indicators	Individual zone switch, Priority
Switching mode	Individual, ALL CALL Local zone selection bypassed when remote trigger is activated
Dimensions (WxHxD)	482 x 44 x 130 mm
Weight	1.8 kg (ZS5601) ; 1.9 kg (ZS5121)

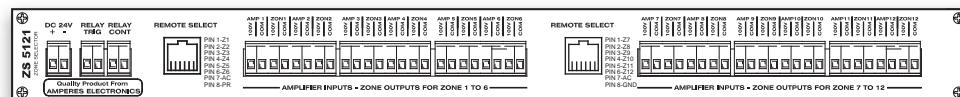
packing information

Carton Size : 555 (W) x 95 (H) x 295 (D) mm
Weight : ZS5601 : 2.4 kg
: ZS5121 : 2.5 kg
Qty : 1 units / carton

APPLICATION SCHEMATIC



rear views





SPEAKER ZONE SELECTOR

6 Ch Uninterrupted Paging Speaker Zone Selector ZS5602



ZS5602 shall be suitable for uninterrupted paging setup, ie. when an announcement to a zone is made, other areas with BGM shall not be interrupted.

This shall require two sets of amplifiers connected to the ZS5601, thus the system shall consist of two sources, one being BGM and the other as Paging.

Similarly to ZS5601 / 5121, paging zone can be remotely triggered and each zone shall have separate amp input - zone output terminals, thus making it flexible for amp-zone configuration.

FEATURES

- Available in 6 zones for BGM and 6 for Paging with ALL CALL
- Expandable or link multiple units to form more zones
- Remote zone triggering port via external paging mic
- Emergency paging mic triggering port with dry contact for volume controller overriding application
- Aux DC output for selected paging zone
- Suitable for 3 or 4 wire system

TECHNICAL SPECIFICATIONS

Operating voltage	24V DC ; 0.5 A
Power consumption	10W ; 0.42 A at ALL CALL
Insertion loss	0.5 dB max
Max load / channel	400W at 100V line
Number of zones	6
Amplifier inputs	6 BGM ; 6 Paging
Zone selection- BGM	Front panel switch
Zone selection - Paging	Front panel switch, remote
Indicators	Zone LED
Aux output voltage	24V DC ; 3A max / zone
Dimensions (WxHxD)	482 x 44 x 130 mm
Weight	1.9 kg

packing information

Carton Size : 555 (W) x 95 (H) x 295 (D) mm
: 2.5 kg
: 1 units / carton

SS6401 : 4 Input BGM Source Selector

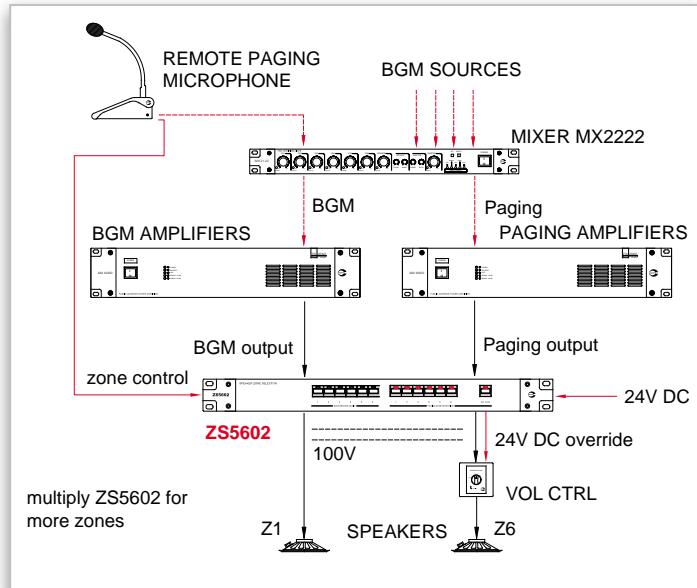
FEATURES

- 4 input sources ; Cassette, CD, Tuner and Aux
- Input level balancing circuit for constant output level for different type of BGM source

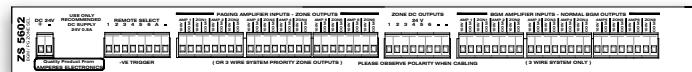
TECHNICAL SPECIFICATIONS

Input voltage	24V DC ; 0.3 A
Consumption	0.15 A
Input level / Imp (max input)	CD : 2V / 47 K Ohm Tuner : 600 mV / 10 K Ohm Cassette : 500 mV / 10 K Ohm Aux : 1.25 V / 20 K Ohm
Input Connection	RCA mono
Output	RCA mono, 1V 600 Ohm
Gain (max)	CD : -6 dB / Tuner : 4 dB Cassette : 6 dB / Aux : -2 dB
Selection	Daisy chain
Dimensions (W x H x D)	482 x 44 x 65 mm
Weight	1.6 kg

APPLICATION SCHEMATIC

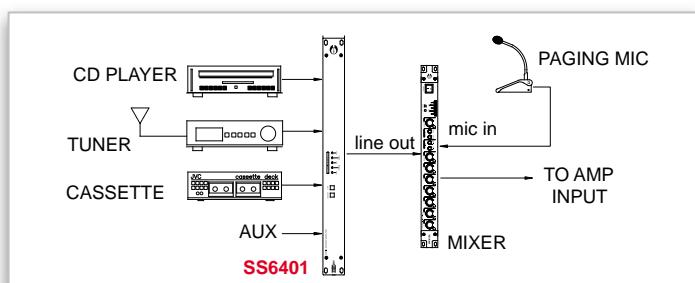


rear view



BGM SOURCE SELECTOR

SS6401 has 4 BGM source input via RCA jack with mono output suitable for PA system. Its has line balancing circuitry which provide equal output level no matter which input is selected, as different BGM source has different output level. This avoids the trouble to adjust mixer volume whenever a different source is changed.





BC9730 is a 24V DC current regulated battery charger with 3.3A capacity, suitable for charging batteries of up to 100Ah. Charging method is constant voltage with reducing current.

5 levels of protections are incorporated to prevent premature failure of batteries, such as battery low voltage cut off, battery disconnect on redundancy and reversed polarity protection circuitry.

TECHNICAL SPECIFICATIONS

Input voltage	230 / 240V ac
Charging voltage	27.3 ~ 27.8 V DC
Charging current	3.3 A max with reducing current
No load consumption	30 mW
Max consumption	100 W
Protections	Resetable fuse Built in surge suppression Low battery auto disconnection Thermal overheat protection Short circuit protection
Indications	AC mains, charging and low batt.
Displays	Voltage and current
E/M back up rating	25 A max Use ext. relay / contactor if reqd.
Terminals	Batt. inputs, EM load
Dimensions (WxHxD)	482 x 88 x 150 mm
Weight	4.1 kg

FEATURES

- Constant DC voltage charging for 24V battery bank
- 3A initial charging current with reducing rate over charging time
- Built in surge protection and resetable fuse
- Output short circuit protection
- Thermal protection against overheating
- Auto low battery disconnection with LED indication
- Battery disconnect switch for disengaging battery from charger when system not in used for a longer period
- Battery reversed polarity protection
- Digital Volt and Ammeter
- Rear mains switch to avoid unnecessary switching off the unit



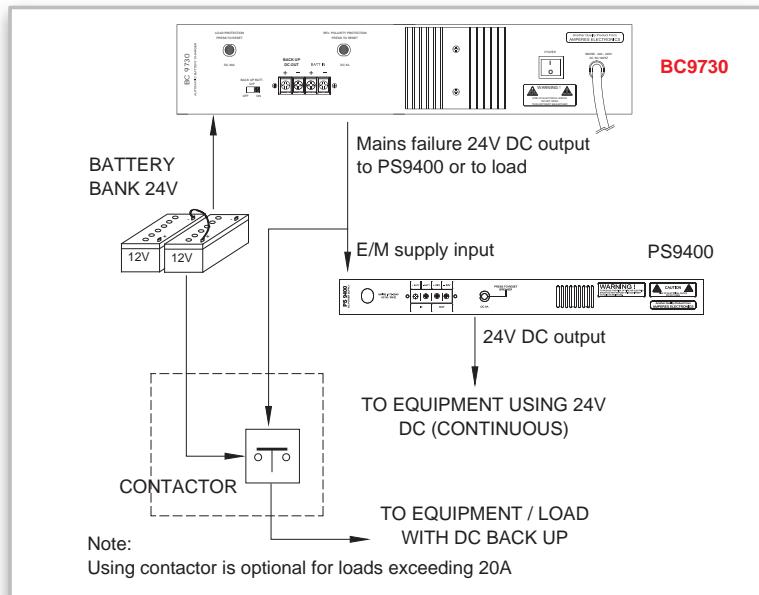
packing information

Carton Size : 555 (W) x 165 (H) x 295 (D) mm
Weight : 4.9 kg
Qty : 1 units / carton

PS9400 Regulated 24V DC Power Supply



APPLICATION SCHEMATIC



packing information

Carton Size : 555 (W) x 95 (H) x 295 (D) mm
Weight : 2.8 kg
Qty : 1 units / carton

PS9400 is a rack mounted 24V DC regulated power pack designed uniquely for PA installations. It comes with built in changeover relay which shall be connected to back up 24V DC to allow continuous and uninterrupted supply to the whole installation whenever the mains failed.

FEATURES

- 24V DC 4A output switching power supply
- Highly regulated output though mains fluctuates
- Manual reset output circuit breaker protection
- Built in surge and short circuit protection
- Back up battery overriding relay

TECHNICAL SPECIFICATIONS

Input ac voltage	220 ~ 240V ac
Output voltage	24V +/- 1%
Rating	4A nominal ; max 4.5A
No load consumption	50 mW
Efficiency	83%
Indicators	AC mains, battery input, DC output
Protections	Built in surge protection Short circuit Overload (105% ~ 150%) Over voltage (115% ~ 135%)
Output DC protection	Manual reset circuit breaker
Terminals	Batt input and load ; barrier connector
Dimensions (WxHxD)	482 x 44 x 150 mm
Weight	2.25 kg

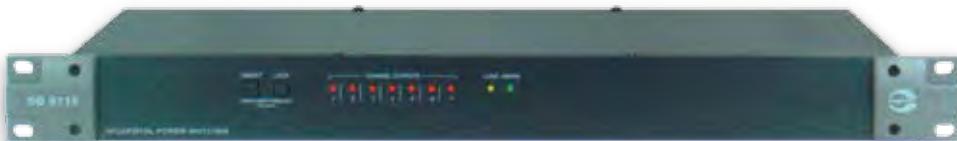


When rules of switching On or Off the stack of AV or PA equipments are neglected, it may cause damage to the component of the system, such as speakers, amplifiers or video projectors.

SQ9715 offers a solution to the switching sequence by switching on in sequence from channel 1 to 7 and vice versa during shutting down by a push of a switch. Two units of SQ9715 can be linked to form 14 channels setup ; one being Master and the other as Slave.

FEATURES

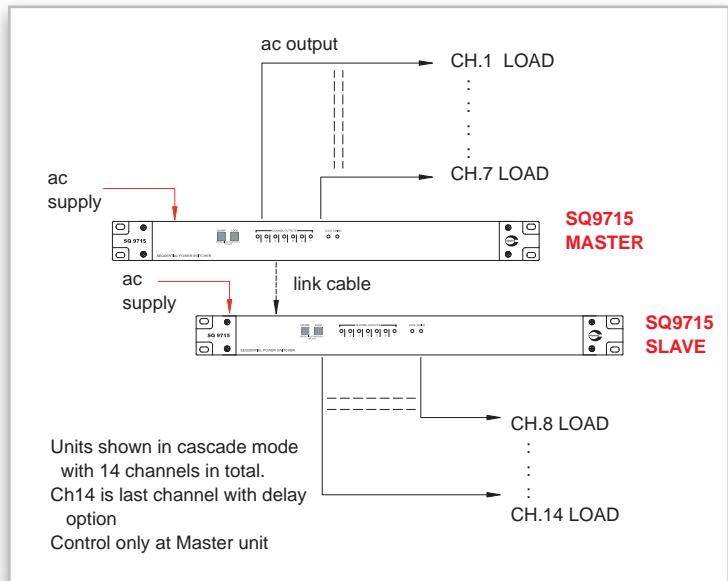
- 7 channel with 6 A per channel ; total load 15 A maximum
- Cascade two units to form 14 channel setup
- Incremental switching from Ch. 1 to 7 (or Ch. 1 to 14 in cascade mode)
- Decremental switching from Ch. 7 to 1 (or Ch. 14 to 1 in cascade mode)
- Remote switching port via external noiseless contact
- AC output via IEC connectors
- Channel isolation via DIP switch
- Ch. 7 with delay Off option for 2 min ; suitable for video projector powering
- Lock mode to avoid incidental switching
- Built in surge protection



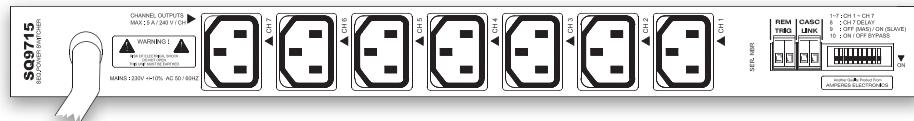
TECHNICAL SPECIFICATIONS

Operating voltage	230 / 240V ac
Power consumption	50 mW (without load)
Output voltage	230 / 240 V ac
Max load / channel	6 A
Max total load	15 A
Output connection	IEC female socket
Max cascade	2 uts : total 14 channels
Surge protection	L-N, L-E, N-E.
Clamping voltage	870V ac
Turn on sequence	Step 1 to 7 incremental
Turn off sequence	Step 7 to 1 decremental
Step timing	2 seconds
Delay off option	Channel 7 via DIP switch
Delay off timer	2 minutes
Switch lock	Via front switch
Indicators	AC mains, Ch. on, Lock
Dimensions (WxHxD)	482 x 44 x 180 mm
Weight	2.7 kg excl. accessories

APPLICATION SCHEMATIC



rear view



packing information

Carton Size : 555 (W) x 165 (H) x 295 (D)
Weight : 3.7 kg
Qty : 1 units / carton

From contemporary to classic design, Amperes offers choices for the installation needs. The variants are in three different designs and available in various ratings, ranging from 5 watts to 150 watts 100V line.

They are suitable for 4 wire system installation with built in emergency overriding relay and overriding LED indicator.

FEATURES

Suitable for 4 wire system : 2 for 100V line , 2 for 24V DC overriding signal
 2 plate mounting for better looks
 Built in overriding relay to allow emergency signal to bypass volume attenuation
 Overriding LED indicator whenever EM paging is activated
 5 preset attenuation with OFF
 Large cable terminal block for ease of termination

NOTE :

Wall concealed installation shall require back enclosure with depth of min 50 mm from finishing surface for models with auto transformer. Normal electrical back enclosure shall suffice for installation using resistive volume controllers. ie. VC7005 / 7010/8010

VARIANTS

VC7000 SERIES (86 X 86 MM) :

VC7805 : 5W 8 OHM Resistive
 VC7005 : 5W 100V Line Resistive
 VC7010 : 10W 100V Line Auto Trans
 VC7030 : 30W 100V Line Auto Trans
 VC7050 : 50W 100V Line Auto Trans
 VC7100 : 100W 100V Line Auto Trans
 VC7150 : 150W 100V Line Auto Trans

VC7000A SERIES (70 X 120 MM) :

VC7010A : 10W 100V Line Resistive
 VC7030A : 30W 100V Line Auto Trans
 VC7050A : 50W 100V Line Auto Trans
 VC7100A : 1000W 100V Line Auto Trans

VC8000 SERIES (86 X 86 MM) :

VC8010 : 10W 100V Line Resistive
 VC8030 : 30W 100V Line Auto Trans
 VC8050 : 50W 100V Line Auto Trans
 VC8100 : 100W 100V Line Auto Trans

VC8000 series



VC7000 series

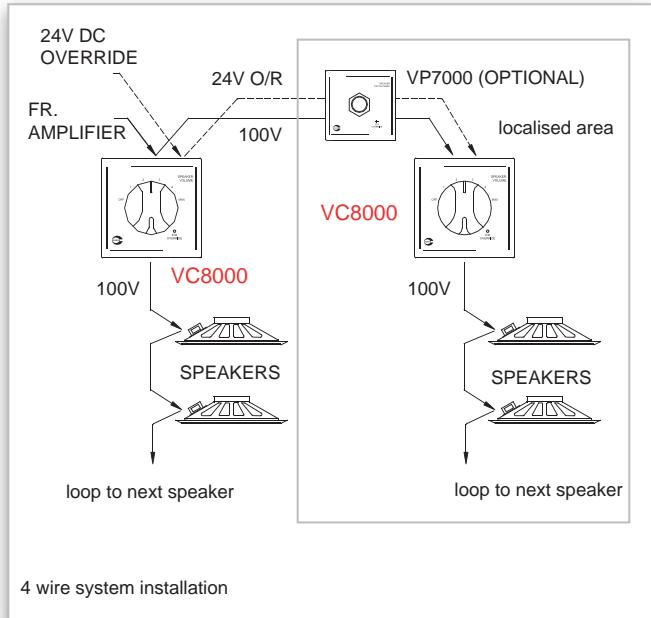


VC7000A series



For 70 x 120 faceplate series :
 Vertical and Horizontal version
 available

APPLICATION SCHEMATIC



TECHNICAL SPECIFICATIONS

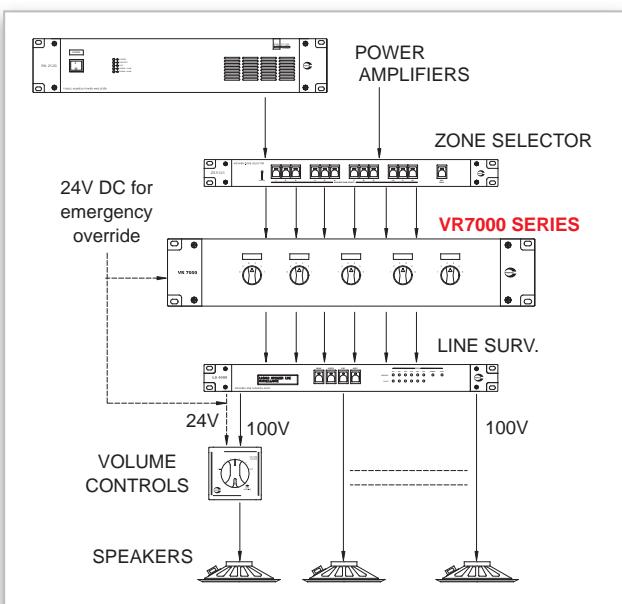
Power rating	Refer to variants
Overriding voltage	24V DC
Overriding current	15 mA per channel
Attenuation	6 steps incl. OFF
Attenuation / step	6 dB / step
Attenuation method	VC7005 / 7010 / 8010 - Resistive Others - Auto transformer
Colour	White
Size (W x H x D)	VC7000 / 8000 - 86 x 86 x 40 mm VC7000A - 70 x 120 x 40 mm
Weight (kg)	VC7805 / 7005 / 7010 - 100 gms VC7010 / 7030 - 200 gms VC7100 / 7150 - 330 gms
VC8010	- 200 gms
VC8030	- 220 gms
VC8050	- 235 gms
VC8100	- 345 gms

Optional item :

Conceal enclosure 77 x 77 x 60 mm
 Surface enclosure 85 x 85 x 60 mm



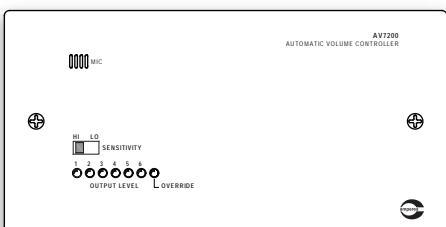
APPLICATION SCHEMATIC



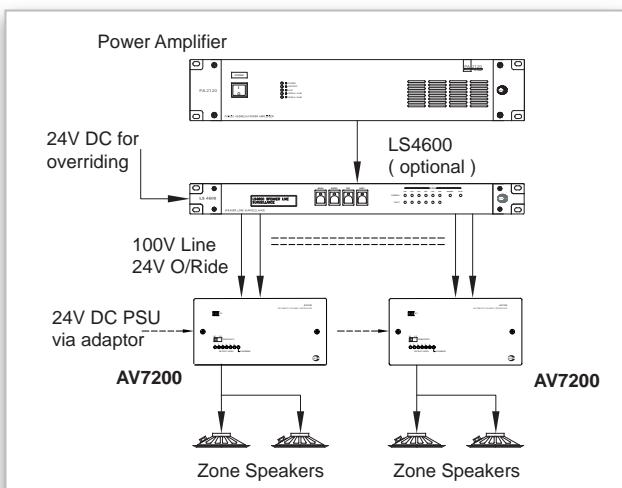
VR should be installed before LS4600 to avoid false fault detection due to variation of impedance whenever volume is adjusted.

AV7200 : 100W 100V Line Auto Volume Controller

preliminary information



APPLICATION SCHEMATIC



VARIANTS

- VR7605 - 6 Zone X 50W 100V Line
- VR7610 - 6 Zone X 100W 100V Line
- VR7615 - 6 Zone X 150W 100V Line

VR series is available in three variants with 6 zones at each panel. It shall be mounted at rack to enable volume of each zone to be controlled or set at the control room.

FEATURES

- 6 zones with 50 / 100 / 150 W 100V line rating for each zone
- Customised zone rating option available
- Suitable for 4 wire system : 2 :100V audio & 2 :24V DC overriding
- Built in overriding relay for emergency volume bypass

TECHNICAL SPECIFICATIONS

VR7605 / VR7610 / VR7615

Power rating	50 / 100 / 150W 100V line / zone
Overriding voltage	24V DC
Overriding current	15 mA per channel
Attenuation	6 steps incl. OFF
Attenuation / step	6 dB / step
Attenuation method	Auto transformer
Size (W x H x D)	482 x 88 x 60 mm
Weight (kg)	3.4 / 4.5 / 4.8 kg

AUTO VOLUME CONTROLLER

There is always a need to regulate the speaker volume in areas which has significant variance of ambience noise level between different time in a day, such as in public area ie. bus station, airports, etc.

AV7200 controls the speaker volume automatically by reducing or increasing the 100V line output from amplifier to the localised area, which the unit shall be located. Unlike most AVC, AV7200 controls the 100V speaker line instead of audio signal prior to amplifier input.

This would enable the unit to be applied to existing system without having to run additional microphone cable to the main rack. It can be installed next to the existing volume controller at the particular area and powered by a 24V power adaptor. A significant cost saving shall be achieved with this method.

FEATURES

- Installation at localised area (at existing volume controller) without additional cable re-run (easily retrofit to existing system)
- 100V speaker line control with 6 step attenuation
- Adjustable noise sensing sensitivity
- Built in overriding relay for emergency volume bypass

TECHNICAL SPECIFICATIONS

Power rating	100W 100V line
Operating voltage	24V DC : 40 mA
Attenuation	6 steps ; -6 dB per step
Emergency overriding	24V DC ; 0.15 A
Sensitivity adjustment	2 level
Size (front panel)	172 x 86 mm
Weight (excl. enclosure)	500 gms (est)

VP7501 : Local Speaker Patch Panel
 VP7810 : 100V - 8 Ohm Speaker Patch Panel

LOCALISED SPEAKER PATCH PANEL



VP7501 shall be used to isolate a group of speakers (meeting room, etc) from central PA system to allow a separate PA amplifier to utilise those local speakers, but shall be overridden by main system in the event a 24V overriding signal is present.

VP7810 works similarly but the local speaker is 8 Ohm, ie. setup in hotel room speaker connected to TV audio output via a mini amplifier. In the event of emergency, it shall allow the incoming 100V line to take over and to match the speaker's impedance.



VP7501

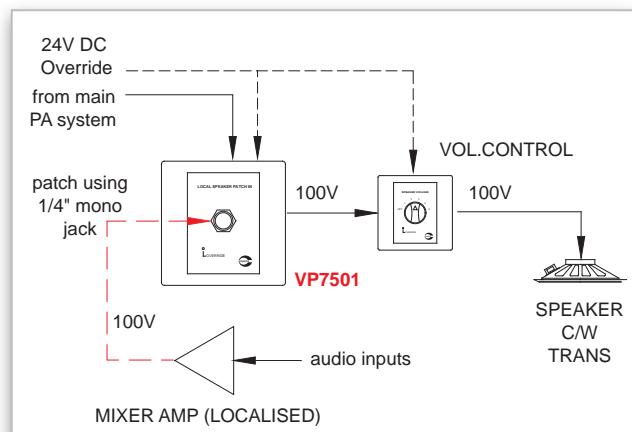
FEATURES

Suitable for 4 wire system : 2 x audio, 2 x 24V DC overriding
 Built in overriding relay for emergency bypass with LED indicator
 Also available with 70 x 120 mm front panel



VP7810

APPLICATION SCHEMATIC

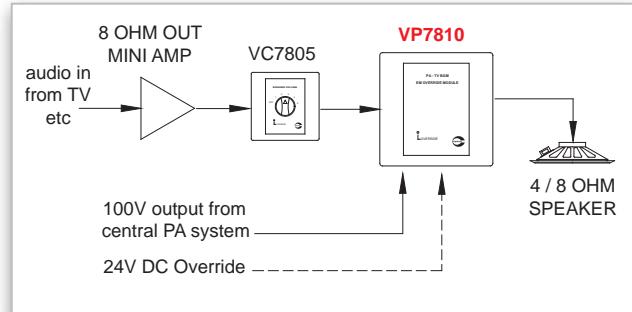


VP7501 application schematic

TECHNICAL SPECIFICATIONS

VP7501 / VP7810

Power rating	50W 100V line / 10W 8 Ohm
Overriding voltage	24V DC : 15 mA
Patch connection	VP7501 : 1/4" phone jack - front patch VP7810 : hardwired
Cablings	4 wire system (2 audio ; 2 overriding)
Size (front panel)	86 x 86 mm 70 x 120 mm available upon request
Weight (excl. enclosure)	70 / 180 gms
Optional enclosure :	
Concealed (WxHxD)	77 x 77 x 60 mm
Surface (WxHxD)	85 x 85 x 60 mm



VP7810 application schematic

Dual Cone Speaker ABS Enclosure

CS510 : 5" 6W 100V Line
 CS610 : 6" 6W 100V Line



Available in 5" and 6" of driver size complete with matching transformer of three tappings ; 1, 3 or 6W. Back enclosure are supplied as integral part of the speakers made from quality ABS plastic. Installation is made easy with its screw mounting mechanism

Dual Cone Speaker Metal Enclosure

CS606 : 6" 6W 100V Line



Available in 6" dual cone speaker with back metal enclosure, grill and baffle and multi tap matching transformer of 1, 3 and 6W 100V line. This model shall be suitable for installations that demand fire resistant version of dome.

Co-Axial Speaker ABS Enclosure

CS620 : 6" 20W 100V Line
 CS840 : 8" 40W 100V Line



CS620 and 840 meets the requirement of hi fidelity of sound reproduction in areas such as function halls, restaurants and also for sound reinforcement at hall balconies. They are available in 6" and 8" version of speaker driver with tweeter and 100V line matching transformer.

TECHNICAL SPECIFICATIONS

	CS510	CS610	CS606	CS620	CS840
SPEAKER					
Power rating	6W 100V line nominal (max 10W)		6W 100V line nominal	20W 100V	40W 100V
Diameter	5" (125mm)	6" (150mm)	6" (150mm)	6.5" (160mm)	8" (200mm)
Cone type	Dual cone		Dual cone		Co-axial
Impedance	8 Ohm		8 Ohm		8 Ohm
Freq response (+/- 5dB)	150 ~ 19 KHz	120 ~ 19 KHz	150 ~ 16 KHz	80 ~ 18 KHz	90 ~ 19 KHz
SPL @ 1W / m (+/- 3dB)1KHz	93 dB	92 dB	91 dB	88 dB	90 dB
Magnet weight	3 oz	5.3 oz	2 oz	10 oz	15 oz
TRANSFORMER					
Tapping (100V line)	1 / 3 / 6 W 100V line input		1 . 5 / 3 / 6 W 100V line input	20W 100V line	40W 100V line
Primary impedance	10K / 3.3K / 1.6K Ohm		6.7 K / 3.3K / 1.6K Ohm	500 Ohm	250 Ohm
Secondary impedance	8 Ohm		8 Ohm		8 Ohm
MECHANICAL					
Grille / enclosure	White metal / ABS white		White metal	White metal / ABS white	
Cutting hole dim (mm)	140	175	165	205	240
Overall size (dia x height) mm	177 x 130	230 x 102	200 x 100	240 x 145	280 x 145
Weight	715 g	785 g	950 g	2.4 kg	2.9 kg
Colour	Off white		Beige white		Off white

packing information

CS510 : 885 (W) x 363 (H) x 300 (D) mm

17.5 kg 20 uts per carton

CS610 : 683 (W) x 473 (H) x 360 (D) mm

21.6 kg 18 uts per carton

CS606 : 540 (W) x 215 (H) x 420 (D) mm

12.5 kg 10 uts per carton

CS840 : 305 (W) x 305 (D) x 175 (H) mm

2.6 kg 1 ut per carton

CS620 : 265 (W) x 265 (D) x 170 (D) mm

3.1 kg 1 ut per carton

Surface Mount Speaker
BS410 : 4" 10W 100V Line



It is constructed with high quality ABS plastic with 4" dual cone speaker driver and multi tapping matching transformer of 1 / 3 / 6 and 10W 100 V line. Suitable for wall and ceiling installation with optional tilt mounting bracket. Available in white colour.

Surface Mount Speaker
DV410 : 4" 6W 100V Line



A classic yet favourite model which is suitable for installations in small enclosed areas such as staircase, office, etc. Available in white colour with multi tap matching transformer of 1 / 3 / and 6 W 100V line, fit for vertical or horizontal installations.

Column Speaker
CH720 : 20W 100V Line
CH730 : 30W 100V Line
CH730 : 40W 100V Line



Built ruggedly with aluminum die cast housing and available in 3 power rating of 20 / 30 and 40W 100V line with half or full power tapping. Suitable for classrooms, hyper markets, mosques, etc.

TECHNICAL SPECIFICATIONS

	BS410	DV410	CH720	CH730	CH740
SPEAKER					
Power rating	10W 100V	6W 100V	20W 100V	30W 100V	40W 100V
Diameter	4"		2 x 4"	3 x 4"	4 x 4"
Cone type	Dual cone			Dual cone	
Impedance	8 Ohm			8 Ohm	
Freq response (+/- 5dB)	100 ~ 16 KHz	100 ~ 18 KHz	85 ~ 15 KHz	80 ~ 15 KHz	75 ~ 15 KHz
SPL @ 1W / m (+/- 3dB)1KHz	92 dB	90 dB	91 dB	93 dB	95 dB
Magnet weight	7.5 oz	3.0 oz		7.5 oz	
TRANSFORMER					
Tapping (100V line)	1 / 3 / 6 / 10W	1 / 3 / 6W	10 / 20W	15 / 30W	20 / 40W
Primary impedance (Ohm)	10K / 3.3K / 1.6K / 1K	10K / 3.3K / 1.6K	1K / 500 Ohm	660 / 330 Ohm	500 / 230 Ohm
Secondary impedance	8 Ohm			8 Ohm	
MECHANICAL					
Grille / enclosure	ABS with metal grille		Aluminum / metal grille		
Overall size (W x L x H) mm	185 x 215 x 90	220 x 190 x 100	400 x 100 x 145	495 x 100 x 145	605 x 100 x 145
Weight	1.1 kg	750 g	3.2 kg	3.7 kg	4.6 kg
Colour	White		Dark grey / front black grille		

BS410

Carton 550 (W) X 215 (H) X 420 (D) mm
Weight 14.5 kg
Qty 12 ut per carton

CH720

Carton 510 (W) X 363 (H) X 300 (D) mm
Weight 7.8 kg
Qty 2 ut per carton

CH740

Carton 802 (W) X 563 (H) X 389 (D) mm
Weight 11.0 kg
Qty 2 ut per carton

DV410

Carton 590 (W) X 400 (H) X 303 (D) mm
Weight 15.4 kg
Qty 18 ut per carton

CH730

Carton 683 (W) X 473 (H) X 306 (D) mm
Weight 9.0 kg
Qty 2 ut per carton



Foreground Music Speaker

FS415 : 4" 10W 100V Line
 FS630 : 6" 30W 100V Line



White and black colour available

Available in 4" and 6" of driver size complete with matching transformer and mounting bracket. They are suitable for foreground soft music such as restaurants, shops and general sound reinforcement in meeting room, corridors, etc.

Foreground Music Speaker

FS520 : 5" 15W 100V Line
 FS625 : 6" 25W 100V Line



Only black colour available

These models deliver wider frequency range from bass to treble for satisfying a more demanding audience. Among applications includes bars, restaurants, function halls and could easily complement any sound reinforcement systems.

Cabinet Array Speaker

LA4100 : 4" 120W 100V Line



Only black colour available

LS4100 is array speaker built with 4" driver delivering a punch of 120W of output with dispersion angle of H120 x V60 degree and high SPL. Most suitable for application like mosques, halls, public areas such as bus stations, airports, etc where speech clarity is utmost important.

TECHNICAL SPECIFICATIONS

SPEAKER	FS415	FS630	LA4100	FS520	FS625
Power rating	10 W	30 W	120 W 100V	15 W	25 W
Diameter	4" (100mm)	6" (150mm)	4 "	5" (125mm)	6" (150mm)
Speaker type	2 way speaker		Single cone	2 way speaker	
Impedance	8 Ohm		8 Ohm	8 Ohm	
Freq response (+/- 5dB)	95 ~ 16 KHz	85 ~ 19 KHz	130 ~ 18 KHz	85 ~ 16 KHz	80 ~ 15 KHz
SPL @ 1W / m (+/- 3dB)1KHz	85 dB	88 dB	96 dB	87 dB	89 dB
TRANSFORMER					
Tapping (100V line)	10 W	30 W	60 / 120 W	15 W	25 W
Primary impedance	1 K Ohm	330 Ohm	167 / 83 Ohm	667 Ohm	400 Ohm
Secondary impedance	8 Ohm		8 Ohm	8 Ohm	
MECHANICAL					
Grille / enclosure	ABS enclosure		Polypropylene (PP)	ABS enclosure	
Overall size (WxHxD) mm	160 x 220 x 140	215 x 295 x 190	205 x 585 x 195	169 x 266 x 160	212 x 328 x 190
Weight	1.1 kg	2.8 kg	21 kg	2.1 kg	3.0 kg
Colour	White and Black available		Black	White and Black available	

packing information

FS415 : 415 (W) x 380 (H) x 540 (D) mm

9.8 kg 8 uts per carton

FS630 : 640 (W) x 415 (H) x 495 (D) mm

25.5 kg 8 uts per carton

LA4100 : 485 (W) x 665 (H) x 275 (D) mm

21 kg 2 uts per carton

FS520 : 415 (W) x 380 (H) x 540 (D) mm

18.7 kg 8 ut per carton

FS625 : 640 (W) x 415 (H) x 495 (D) mm

26 kg 8 ut per carton



Horn Speakers with Round Flare

HS815 : 8" 15W 100V Line

HS830 : 12" 30W 100V Line



Both models are constructed using rounded aluminum flare of 8" (HS815) and 12" (HS830) with multiple power selection via rotary switch. Suitable for schools, mosques, car parks, factories at indoor or under shade installations and that requires omni direction sound broadcast.

Horn Speaker with Rect. Flare

HS820 : 6" x 8" 15W 100V Line

HS822 : 8" x 11" 20W 100V Line



Constructed with high impact ABS flares of different size to suit installation sites where pattern of broadcast shall be controlled, such as low level carparks, corridors, etc. Suitable for indoor or outdoor sites with IP64 rating.

Sound Projector

SP100 : 10W 100V Line



SP100 is used when a more directional sound projection is required for areas such as at narrow corridors, tunnels, walkways, etc. It has aluminum body with metal grille and available with standard power rating of 10W 100V line. Mounting position can be either at wall or hanged from ceiling.

TECHNICAL SPECIFICATIONS

	HS815	HS830	SP100	HS820	HS822
Power rating	15W 100V	30W 100V	10W 100V	15W 100V	20W 100V
Power tapping (W)	1 / 3 / 5 / 10 / 15	3 / 5 / 10 / 15 / 30	Fixed	3 / 7.5 / 10 / 15 W	3 / 7.5 / 10 / 20 W
Impedance (Ohm)	670	330	1 K Ohm	3.3 K	3.3 K
	1 K	670	-	1.3 K	1.3 K
	2 K	1 K	-	1 K	1 K
	3.3 K	2 K	-	670 Ohm	500 Ohm
	10 K	3.3 K	-		
Frequency response (+/- 5 dB)	350 ~ 7 KHz	300 ~ 10 KHz	180 ~ 15 KHz	250 ~ 8 KHz	300 ~ 8 KHz
SPL (1 W/m @ 1KHz)	103 dB	105 dB	88 dB	105 dB	107 dB
Flare material	Aluminum		Aluminum body	ABS	
Flare dimension	8" round	12" round	-	160 x 220 mm	205 x 280 mm
Overall size (Dia x L) mm	210 x 240	310 x 325	140 x 195	L : 240 mm	L : 280 mm
Weight	1.55 kg	1.85 kg	2 kg	1.5 kg	1.9 kg
Colour	Beige		White	White	

packing information

HS815 : 695 (W) x 480 (H) x 520 (D) mm
23 kg 12 uts per carton

HS820 : 510 (W) x 250 (H) x 250 (D) mm
10.7 kg 6 uts per carton

SP100 : 75 (W) x 75 (D) x 255 (H) mm
2.1 kg 1 uts per box

HS830 : 665 (W) x 665 (H) x 355 (D) mm
10.6 kg 4 uts per carton

HS822 : 590 (W) x 300 (H) x 430 (D) mm
10.0 kg 4 uts per carton



ENCLOSURES

EC7012 : 70 x 120 mm Back enclosure for concealed mounting

ES7012 : 70 x 120 mm Back enclosure for surface mounting

EC9090 : 86 x 86 mm Back enclosure for concealed mounting

ES9090 : 86 x 86 mm Back enclosure for surface mounting

All models with 60 mm depth, suitable for volume controllers with auto transformers. Enclosures are optional items and to be ordered separately from volume controllers / patch panels.

PATCH PANELS



MR5000 : 5 Way rack mounted female XLR patch panel

MR1000 : 10 Way rack mounted female XLR patch panel

MP1000 : Single inlet wall mounted female XLR patch panel

MP2000 : Double inlet wall mounted female XLR patch panel

Quality XLR connectors are used in the above series. Other brands of inlets are available upon request.



RACK PANELS



BP1000 : 1 hu blank panel

BP2000 : 2 hu blank panel

VP1000 : 1 hu ventilation panel

VP2000 : 2 hu ventilation panel

Available with standard Amperes mounting ears for harmonious look with other amperes equipments.

Panels are available in black powder epoxy coating.



POWER SUPPLY

PS1205 : 12V 0.5A ac / dc regulated power adaptor

PS2405 : 24V 0.5A ac / dc regulated power adaptor

PS9000 : 24V 4.5A dc switching power supply

Regulated power adaptor for powering single unit of equipment. Equipments are not supplied with power adaptor and are to be ordered separately.

For larger system, we recommend that proper DC supply to be used with relay changeover for DC back up supply. ie. Amperes PS9400.

SLA BATTERIES



122600 : 12V 26 Ah Maintenance free SLA battery

124000 : 12V 40 Ah Maintenance free SLA battery

126500 : 12V 65 Ah Maintenance free SLA battery

121000 : 12V 100 Ah Maintenance free SLA battery

SLA batteries are sold in blocks of 24V (2 x 12V block). Above are common ratings widely used. Other ratings are available upon request.

We recommend that Constant Voltage with auto current reducing charger to be used, ie. Amperes BC9730.



the emerging preference

Amperes



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